PULP & PAPER

MARCH 1948
Vol. 22 No. 3
Member Audit Bureau of Circulations
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The Production and Management Journal Covering North America's Wood Pulp, Paper, Paperboard and Cellulose Industries
by MILLER FREEMAN PUBLICATIONS, INC.

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SUBSCRIPTION—For 1 Yr., inc. North American Review Number—$3 in U. S. and Canada, $4 in other countries. For 2 Yrs., $5 in U. S. and Canada; $7 in other countries.

"The Cellulose Age"

EDITORIALS

All in the Same Boat

The serious situation which today faces a group of Lake State mills dependent upon Ontario for a part of their wood supply is not any local problem, by any means. If the Ontario provincial government carries through to the bitter end its program to gradually cut off virtually all pulpwood exports to the United States, it will affect every pulp and paper industry on this side of the border.

Only about ten per cent of the wood consumed in American mills comes from Canada, yet that is a critical ten per cent. Without it, the competition for wood in this country would be greatly intensified. Northern mills which would lose their Ontario source of supply, would be forced to look elsewhere. The Rocky Mountain area might offer some relief, but the real pressure would be on the South.

So it is a matter of grave concern to every mill in the United States whether the Wisconsin and Michigan mills may continue to get Ontario pulpwood of the favored species.

Senator Wiley of Wisconsin, in his recent protest against the curtailment, advised Premier Drew of Ontario that the Ontario program "would have very adverse effects" on the pulp and paper industry of the United States.

Even under virtually the present rate of consumption of Ontario wood, experienced operators believe that better forest management and fire and disease control is all that would be needed to insure a continuous supply. So, the Ontario ban is really aimed at building up the manufacturing of pulp in Ontario, rather than shipping the wood across the line to mills. But, the paradoxical fact that stands out so strongly behind all this agitation is that it has been United States capital which has largely financed the Canadian industry.

The question is: Will more of this money be forthcoming?

Mills have been advised that export of Ontario pulpwood to firms which do not have plants in that province will end in three years. In the meantime, quotas have been cut to about 50 per cent of the 1942-46 yearly average for the next three years, on a sliding scale decreasing each year. Companies with Ontario plants have a 10-year grace period.

Because last year's cut was exceptionally heavy, due to favorable weather and more available labor, the restriction is not expected to affect most U. S. mill operations immediately. However, several U. S. firms have suspended their woods operations in Ontario. Some already have cut more pulpwood than their entire three-year allotment under the restricted quota, it is reported, and have it stacked to await spring shipment.

Premier Drew gave notice of the new policy in an address at Port Arthur, Ont., last October, in which he was quoted as saying that no one would be inconvenienced "except a few selfish interests in the United States."

The restriction applies only to spruce, jackpine and balsam cut on Crown lands in Ontario. It does not apply to other pulpwoods—popple, hemlock and birch, for example—nor to wood cut on private lands.

Department of Labor Distortion

The press relations boys of the U. S. Department of Labor have joined the press relations division of the U. S. Forest Service in releasing news slanted to give the industry a black eye. In fact, this is getting to be an occupational disease of most of our government publicity bureaus.

The heading for the Department of Labor blast is "A Report on Paper and Paper Products Manufacturers—Employers Agree to Pay $78,793 for Violations of Minimum Wages, Overtime." Analysis of the news release revealed such patent weaknesses and such a straining to distort what is actually an excellent industry record that few newspapers used the item. But it is worthy study nevertheless.

The article says "violations of the minimum wage, overtime and child-labor provisions of the Fair Labor Standards Act and the Public Contracts were found in 57% of the 306 inspections in the paper and paper products manufacturing industry, according to the 1947 Annual Report of . . . the U. S. Department of Labor."

Accepting the figures ($78,793 to 3,887 employes) this would be about $20 per employe. Labor and industrial experts interviewed by **PULP & PAPER** consider the record of the industry most excellent, and it is far above that of many comparable industries. The news release admits that inspections were made "where there is a high degree of probability that violations will be found." It does not indicate how many of the violations were in the pulp and paper manufacturing industry and how many were in converting mills with little or no connection with what is generally known as "the pulp and paper industry."

Honest newsworthy information from a government bureau is welcome. The news release under discussion here is not news. It is a conscious distortion—or it was written by a publicity man not very familiar with industry records, which is just as bad.

The copy of the release which came into our hands is marked "Tear Sheets Appreciated." So we happily contribute this to the Department of Labor's publicity scrap book.

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HANDY REFERENCE—On Page 80 of February issue is a complete index of articles published in Volume 21—all issues of PULP & PAPER in 1947

President Bartsch Discusses
RAYONIER'S FUTURE OUTLOOK

In a recent interview with **PULP & PAPER**, Edward Bartsch, president of Rayonier Incorporated, expressed himself as believing that 1947 was the most significant year in the history of this company which is the world's largest producer of dissolving pulps. Reason for Mr. Bartsch's enthusiasm was the completion of contracts and agreements on Dec. 1, 1947, pertaining to acquisition of an additional supply of more than two billion feet of timber which he said insures Rayonier of an adequate wood supply in perpetuity.

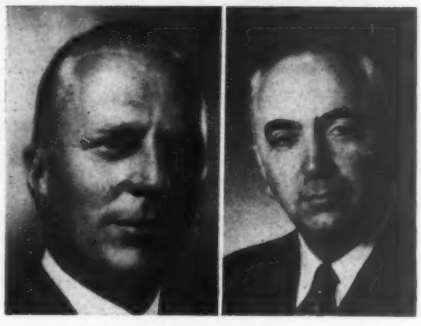
Observers in the state of Washington had already indicated that the purchase by Rayonier of a controlling interest in the Polson Logging Co. was a genuine forward step in the wood industries development of the Pacific Northwest. Merging of the pioneer logging operations into a foremost pulp manufacturing organization with a long-term forestry program, they pointed out, assured full utilization of a great part of the area's timber resources with consequent economic and social gains. In this light, **PULP & PAPER** went to Mr. Bartsch for his views on the big timber deal and requested his outline of the future program of Rayonier.

The Polson interest acquired was well over two-thirds of the common stock and represented Rayonier's latest and most important move in a program begun soon after Mr. Bartsch became president of Rayonier several years ago. Prior to that time, the timber holdings were relatively small and the company had been buying practically all of its wood in open market.

"It was soon apparent that the only assurance of continued full-scale operations of our Pacific Northwest mills would be in the acquisition of extensive timber properties," Mr. Bartsch told this publication in New York last month. "When we began to make plans for the reopening of the Shelton mill—shut down during the war due to a log shortage—it was recognized that operations could not be resumed on a satisfactory scale, and I mean satisfactory for the citizens of the Shelton area as well as for the company, unless provision was made for additional wood supplies."

Customers' demands for dissolving pulp were increasing, and to meet these demands, several million dollars were allotted for a program of plant improvement in all the company's mills. Increased capacity resulting from this program would create an additional need for wood.

"The first important acquisition of timber properties under Rayonier's new program," Mr. Bartsch said, "was the purchase in 1945 of the Bloedel-Donovan properties in Clallam county, Washington. These properties consisted of timberlands, railroads, logging camps, and logging equipment, and were particularly well located with respect to Rayonier's Port Angeles division. Through this acquisition, the company's pulpwood situation in the Northwest was greatly improved, and not only was it possible to continue full-scale operations at Port Angeles and Grays Harbor, but we could go ahead with plans for reopening the Shelton mill."



EDWARD BARTSCH (left), President of Rayonier Incorporated, who discusses the future of his company in this article.. MARTIN V. DEGGELLER (right), Vice President in Charge of Timber Operations, who was praised highly by Mr. Bartsch for his role in building up the company's timber holdings. The Timber Division, as well as other central divisions now in Olympia, Wash., will eventually move to new headquarters in Hoquiam, Wash.

It was at this time that Rayonier began negotiations to acquire the Polson interests. These negotiations were long and difficult, and Mr. Bartsch gives much credit for their successful conclusion, after nearly two years of effort, to Martin Deggeller, vice president in charge of timber operations.

To provide funds for the Polson acquisition, and to consolidate the company's term debt, financing was arranged through the Metropolitan Life Insurance Co. and a group of East-and-West coasts banks in the amount of 20 million, to be amortized over a 15-year period.

Strategically Located

The Polson properties could not have been better located with respect to Rayonier's mills and previously owned timberlands, it was explained. They are for the most part contiguous to Rayonier's other holdings, and the 125-mile long Polson holdings are over 50,000 acres of virgin timber in Jefferson, Clallam, and Grays Harbor counties, and about 70,000 acres of reproduction lands lying for the most part in Grays Harbor county. Three large Polson logging camps are operating and are now Rayonier's assurance of an immediate additional source of wood supply for the company's Washington mills.

The combined Rayonier and Polson properties are adjacent to large stands of timber owned by the U. S. government and the state of Washington, it was pointed out. In fact, the Polson railroad provides the only existing outlet for a large part of this publicly owned timber on the Western Olympic Peninsula. In view of this, Rayonier should be in an advantageous position to benefit from any timber cutting programs planned to keep these forests continuously productive. Other Polson properties which now are under Rayonier control include extensive tidelands and booming grounds on the Hoquiam River, and a sawmill and two-story office building located in Hoquiam. Because of the many natural advantages at Hoquiam, Rayonier intends ultimately to use this building as company headquarters for its Timber Division, Engineering Department, and Industrial Relations Department.

When asked about Polson employes, Mr. Bartsch said that shortly after Rayonier acquired control, a personal bulletin was sent to all employes of the Polson company, welcoming them into Rayonier, and emphasizing the importance to Rayonier of the Polson logging operations. It concluded with a statement of Mr. Bartsch's belief that everyone connected with Rayonier and Polson would benefit by the combining of the two companies' interests.

Mr. Bartsch is emphatic about Rayonier's recognition of its obligation to adhere to good forest management to prevent depletion of the nation's timber reserve. He mentioned various steps the company has taken in recent years to utilize more small wood than previously had been considered economically practical. Mills at Hoquiam and Port Angeles have been equipped with hydraulic barkers which have the effect of increasing the usable supply of wood by about 15%.

When asked about the present status of the program of mill improvement, for which close to $4,000,000 was appropriated, Mr. Bartsch explained that in its early stages, many delays were encountered due to shortages of equipment, but that work had progressed satisfactorily, and should be completed very soon. In addition to expenditures from the funds originally provided for plant improvement, more than $2,000,000 was expended for this work in 1947 out of current earnings. The result, it was explained, was a steady increase in production during 1946 and 1947.

When asked about the future, Mr. Bartsch mentioned that 1947 was the first year the U. S. textile industry had experienced when chemical fibers—such as rayon, nylon and vinyon—reached the 1 billion pound figure. Rayon alone accounted for well over 950 million pounds of this production, and wood pulp was used as a source of cellulose for about 75% of all the rayon made in this country.

"The history of the rayon industry has been one of steady growth," said Mr. Bartsch, "and leaders in the industry are extremely optimistic about the future. United States annual rayon production has gone from a little over 1 million pounds in 1900 to the present figure of nearly 1 billion pounds. It seems certain that there will continue to be an expanding market for Rayonier products."

IN INDUSTRY NEWS THIS MONTH (left to right):

STANLEY J. O'CONNOR, Manager for the reopened Washington, D. C., office of Minnesota & Ontario Co., a responsibility he also handled during the war. He will maintain liason between the company and government.

H. J. MALSBERGER, Forester-Gen. Mgr. of Southern Pulpwood Conservation Association who had charge of its meeting in Atlanta, Ga., on Jan. 28.

H. W. SLOAN, promoted from Assistant Pacific Coast Manager to Coast Manager of St. Regis Paper Co.'s Multiwall Bag Division. Last month we reported that his predecessor, Arch Carswell became General Sales Mgr. of the Division in New York. St. Regis plans to have fully integrated paper-pulp-bags operation in Tacoma, Wash., by the end of this year.

HERBERT W. BECK, who is the new Resident Manager at Portland, Ore. (730 West Burnside Ave.) for National Aniline Div. of Allied Chemical & Dye Corp. He moved west from his native New York, where he handled intermediate chemical sales for resin, paint, varnish and laquer industries, and prior to that was in the company's Buffalo plant. He is 37, graduate of Brooklyn Polytech, with master's degree in chemical engineering. Harris Fenn, Jr., moved up to the San Francisco office from Portland.

OLLIE W. MESSNER, appointed Superintendent of the paper mill of Lowe Paper Co., Ridgefield, N. J., succeeding W. Gordon Booth. Mr. Messner, first Vice Pres. of the Superintendents Assn., was formerly Supt. at Robertson Paper Box Co., Montville, Conn.

WILLIAM E. BREITENBACH, Vice Pres. and Gen. Mgr. of Rayonier operations in Washington state mills, with headquarters in Port Angeles, was a featured speaker at the Washington State Labor-Management Safety Conference held in Tacoma, Wash., Jan. 21.

STEPHEN GOERL, whose opening of a new agency, Stephen Goerl Associates, to handle advertising and merchandising of pulp and paper and packaging products was announced in this magazine last month. His agency is at 22 East 40th, New York, and he will continue to act as advertising counsel for Bulkley-Dunton Organization.

ESCO ORGANIZES NEW DIVISIONS

For the first time in its 32-year history, Electric Steel Foundry Co., of Portland, Ore., held a sales meeting recently, calling in key men serving industries far and wide over the North American continent. This company has supplied stainless steel piping, special fittings and chemical processing equipment to pulp and paper mills from Quebec to the Pacific Coast and back again to the South Atlantic and Gulf states.

Discussions covered matters of company policy, products and customer service. During the past year the company has organized some new sales and service divisions and it is now organized with two virtually independent but closely cooperating groups of these divisions. One level or group is based on type of equipment. The other relates to localities of sales offices, and each group is responsible to C. E. Buckner, secretary-treasurer and sales manager of the company.

C. F. Swigert, Jr., is president; E. G. Swigert, vice president, and Newman Ward is general manager. Under Mr. Ward, Mr. Buckner heads up all divisions. The engineering department is headed by H. H. Richmond with R. A. Bremner as assistant, and credits and purchases are headed by O. K. Buckner. They, too, are responsible to C. E. Buckner.

There are now six divisions relating to equipment. John M. Wilcox heads up processing equipment, which includes special equipment for pulp, chemical, food plants and refineries. J. I. Good heads sawmill, logging and miscellaneous equipment (logging outside Pacific states only). R. A. MacDonald heads wire rope and logging on the Pacific Coast. J. J. Davis heads contractors' equipment, and also crushing, wingdozers, etc. D. L. Shirley heads up the stainless products division, which is becoming increasingly important in pulp and paper industry all over the continent, supplying standard stainless fittings and valves, stainless chain, etc. A jobbing work division for parts machined or fabricated to customers' drawings and for suction dredge work is headed by R. P. Hanson.

Another level of divisions is that pertaining to locality of office. Both levels cooperate closely. The heads of offices are: A. D. Sherman, Eugene, Ore.; J. E. McQuaid, Seattle; E. V. Wickey, Spokane, Wash.; J. H. Scheeland, Portland, Ore.; E. T. Hewitt (pulp and paper, stainless, etc.), and H. D. Robb (sawmill, logging, etc.), San Francisco; A. G. Kruse, Honolulu; H. W. Smith and J. A. Blake, Los Angeles; D. R. Babbitt, Chicago, for Midwest area; T. P. Kirby, Columbia, S. C., and Virginia Jayne, New York, for Atlantic and Gulf areas.

Portland Papers Withdraw From Hawley Deal

According to Editor & Publisher, the two Portland, Ore., newspapers which were linked with Los Angeles interests in negotiating for purchase of Hawley Pulp & Paper Co., Oregon City, Ore., have withdrawn from the deal. It is understood added indebtedness caused by expansion of their own newspaper plants caused them to withdraw. The Los Angeles interests are still interested.

HERE ARE SOME KEY EXECUTIVES of Electric Steel Foundry Co., Portland, Ore. (left to right): C. E. BUCKNER, Sales Mgr.

D. L. SHIRLEY, in charge of Stainless Products Division; HARRY H. RICHMOND, Chief Engineer, Engineering Dept.; R. A. MACDONALD, in charge of Wire Rope and Logging Equipment Division; JOHN M. WILCOX, in charge of Processing Equipment Division; J. I. GOOD, in charge of Sawmill, Logging and Miscellaneous Equipment, and JEFF DAVIS, in charge of Contractors Equipment Division. Mr. MacDonald handles logging equipment in Pacific Coast states and Mr. Good in all other states.

Union Bag Mill Sets New Records

They are still smashing records at Union Bag & Paper Corp. in Savannah. The ink was hardly dry on the last report published in this magazine when news came that during November the pulp mill averaged 1112 tons of pulp a day, compared with the best previous average of 1048 tons. The paper mill took over from there and produced 928 tons per day on Nos. 1, 2, 3 and 4 machines. (A new No. 5 has started up so there will be more records). The previous record in the paper mill was 920 tons per day. The average production of all five paper machines was 1133 tons a day for the month. The record production of finished products for any one day in the paper mill now stands at 1266 tons.

The story is the same in bag factory, where a new record of 759.6 tons was set on Nov. 21. The previous record was 741.8 tons, made on Oct. 30.

Change In Meeting Date

Chicago TAPPI March meeting will be held Tuesday evening, March 23, instead of Monday, March 15.

Paper Week

As this issue goes to press, pulp and paper men from all over North America—and a few from other parts of the world—are swarming to the registration tables of the Commodore Hotel and the Waldorf-Astoria, New York, for what looks like the biggest "Paper Week" in history.

"Paper Week" is traditionally comprised of parallel annual national meetings of TAPPI and of the American Paper and Pulp Association, the former at the Commodore and the AP&PA sessions at the Waldorf, with a merging of both at a formal banquet on Thursday, February 26th.

The "Week" got under way officially at 10 a.m. Monday, February 23rd, in the Jansen Suite at the Waldorf with a joint meeting of the Toilet Paper and Paper Towel Products Groups of the Tissue Association which historically starts off the meetings. The only change this year was that the Tissue men gathered on Monday instead of Sunday. Leading speakers at this joint session were L. J. Cook, New York City Board of Education, and B. W. Scribner, National Bureau of Standards.

An important highlight of the AP&PA sessions was to be the annual session of the Forest Industries Information Committee which has become increasingly important to the executive association.

Cola Parker, president of Kimberly-Clark, is slated to take over the top office of AP&PA, and W. F. Gillespie, Technical Director of Gaylord Container Corporation, will proceed as leader of the TAPPI sessions.

Detailed story and photographs on Paper Week will appear in the April issue.

Alaska

As this issue was going to press **PULP & PAPER** received the following statement from Ira Mason, manager, Timber Development Division, U. S. Forest Service: "The D & F Company decided not to bid on the Petersburg timber at this time. (Bids were scheduled to be opened on February 18.) However, we are not discouraged about the future prospects with this company and the fact that we have not set a future date for bidding does not indicate that either the forest service or the D & F Company is abandoning hope for mill development in the Petersburg area."

PULP & PAPER confirmed at the Chief Forester's office that the bidding on the Ketchikan area timber had been postponed to April 14th and that "oral bids" would be accepted on March 29th for formal opening at the later date. This is the timber parcel that was to have been auctioned on February 15th. It was expected at USFD that the un-named company which has shown interest in this timber would submit a bid on the new date, looking toward the establishment of an unbleached pulp mill.

Allied Industries Club Plans Year's Program

Program for the Allied Industries Luncheon Club, which meets once a month at the Commodore Hotel in New York, has been set for the year. The 1948 sessions will draw on talent within the membership and the talks coming up are: February 9, Morris D. Van Patten, William Hooper & Sons; March 8, Enright Ellis; April 12, H. T. Darlington, J. E. Rhoades & Sons; May 10, F. A. Soderberg, General Dyestuffs; June 14, H. H. Burrows, Raybestos; Sept. 15, F. E. Hutton, Babcock & Wilcox; October 11, O. R. Stephens, Penick & Ford; Nov. 8, Harry Bennett, Valley Iron Works; Dec. 16, Annual Christmas Party.

The subjects of the speakers will be announced prior to each meeting. The new system was led off very successfully in January with a talk by Carlo Vicario, of Clark and Vicario, on the wet and dry ends of the paper machine.

TAPPI — IN TACOMA

Pacific Coast TAPPI will hold its next meeting on Tuesday, March 9, at Tacoma.

Through the efforts of A. M. Cadigan, chief chemist, St. Regis Paper Co., and Brian Shera, Penn Salt Mfg. Co. of Washington, "The Top of the Ocean" has been obtained for both the afternoon meeting and the dinner.

Engineering will be the topic discussed at the technical session, and several interesting films will be shown after dinner.

COMING INDUSTRY MEETINGS

TAPPI Kalamazoo Valley Section—Columbia Hotel, Kalamazoo, Mich. ..... Mar. 4

TAPPI Pacific Coast Section—Tacoma, Wash. ..... Mar. 9

Supts. Michigan Division—Park American Hotel, Kalamazoo, Mich. ..... Mar. 18

TAPPI Empire State Section (West)—Prospect House, Niagara Falls, N. Y. ..... Mar. 17

TAPPI Lake States Section—Am. Legion Hall, Appleton, Wis. ..... Mar. 9

TAPPI Empire State Section (East)—Queensbury Hotel, Glens Falls, N. Y. ..... Mar. 19

TAPPI New England Section—Roger Smith Hotel, Holyoke, Mass. ..... Mar. 19

Michigan Supts.—American Hotel, Kalamazoo (Annual Coating Meeting) ..... Mar. 18

Chicago Profession Paper Group—Chicago Bar Assn., Chicago ..... Mar. 23

Forest Products Research Society—Chicago ..... March 22-24

Wood Products Clinic—Spokane, Wash. ..... Mar. 22

Canadian Industry Woodlands Section—Montreal ..... Mar. 31-Apr. 1-2

National Paper Trade Assn.—Waldorf-Astoria, New York ..... April 5-7

Packaging Show—Public Auditorium, Cleveland ..... Apr. 26-30

National Paper Box Mfgrs.—Netherlands Plaza, Cincinnati ..... May 9-12

National Supts. Convention—Roosevelt Hotel, New Orleans ..... May 19-21

Joint TAPPI - Supt.—Gearhart, Ore. ..... May 21-22

Envelope Mfgrs. of America—White Sulphur Springs, W. Va. ..... June 10-11

National Paper & Twine Assn.—French Lick Springs, Ind. ..... June 11-12

Technical Section Canadian Assn.—Harrison Hot Springs, B. C. ..... Sept. 4-6

National Paper Trade Assn.—Hotel Stevens, Chicago ..... Oct. 28-30

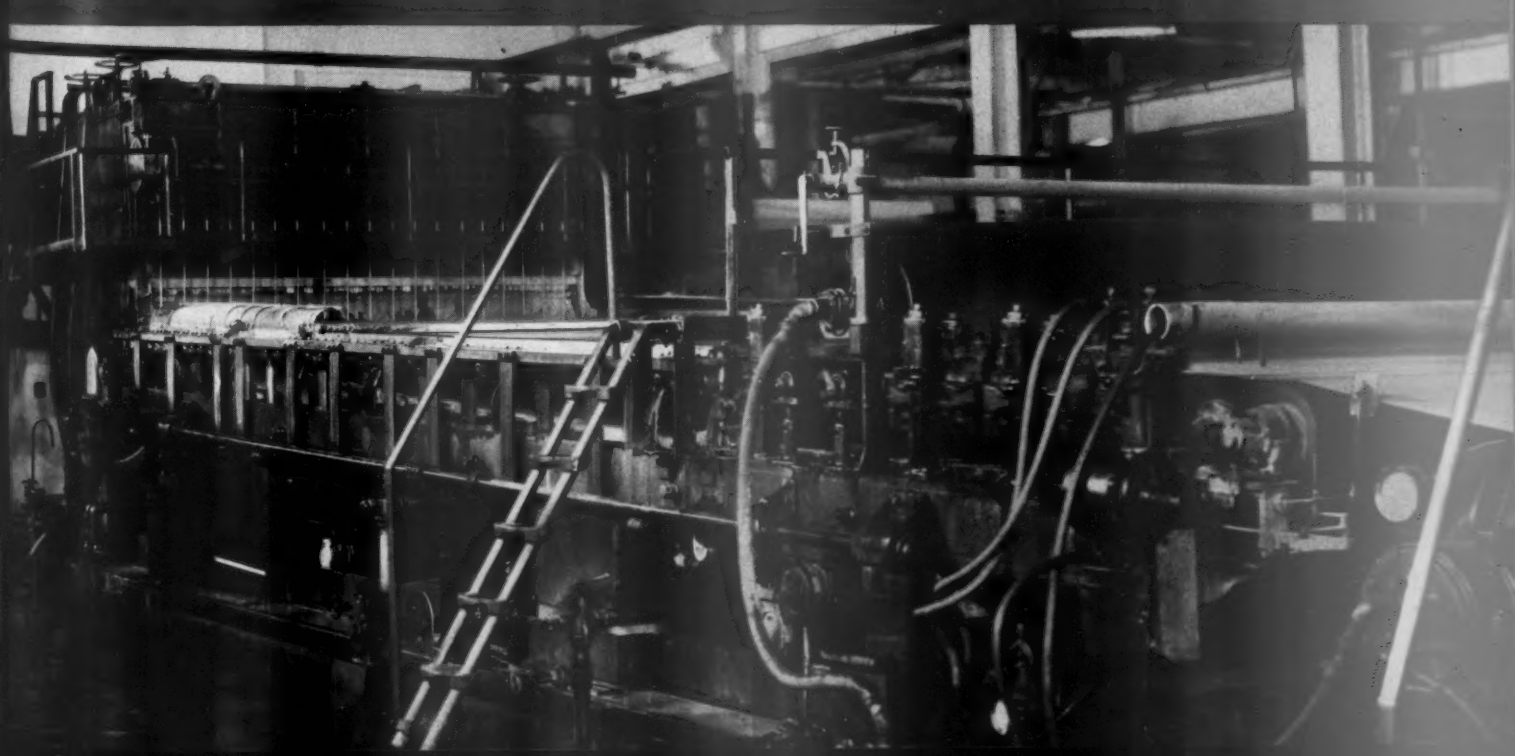
TAPPI Fundamental Research—Madison, Wis. ..... Aug. 25-27

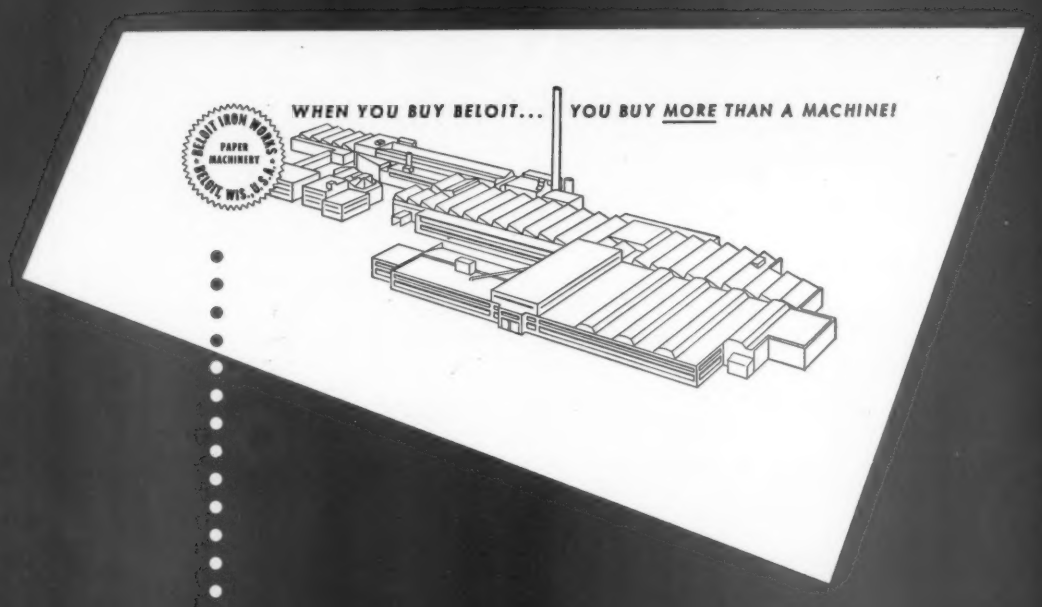
TAPPI Mechanical Pulping—Poland Springs, Maine ..... Sept. 27-29

TAPPI Engineering Conference—Buffalo, N. Y. ..... Oct. 25-28

Paper Industry Salesmen—Midston House, New York City—Every Monday, 11 a.m. - 2:30 p.m.

TRIBUTE TO BLANDIN . . . . Congratulations to Blandin Paper Company, Grand Rapids, Minnesota, on its latest modernization program, characteristic of the management of this progressive mill . . . *Above:* Dryer Section, 156" Fourdrinier Machine. *Below:* Fourdrinier Section . . . Built by Beloit Iron Works, Beloit, Wisconsin.





• BELOIT IRON WORKS • BELOIT, WISCONSIN

How Paper Grades Are Improved

AT BLANDIN PAPER CO.

In a hunters' and fishermen's paradise in Northern Minnesota, just 50 miles from the source of the great Mississippi, is a pulp and paper mill which for 18 years has been one of the real "showplaces" of this industry—one of the most up-to-date and artistically and efficiently engineered operations in the world.

But the fame of the Blandin Paper Company has been mostly one of word-of-mouth. As one of the farthest north mills in this country, it is not frequently visited. Although mills all over the world cluster along the shores of great riverways, it is a strange thing that there are so very few mills on the banks of the 2,486-mile-long "Father of Waters." But at the pleasant little town of Grand Rapids, Minn., with literally hundreds of little and big lakes all around it, is one of these few Mississippi River mills.

A distinguished engineer of this industry was one of the recent occasional visitors at the Blandin mill and he came away with words of praise on his lips for "a beautiful job of engineering" which is just about completed, except for odds and ends, as this issue reaches you. He was speaking of an improvement program carried out at a mill which already was famed for the engineering of its past improvements. **PULP & PAPER** had already gone to Grand Rapids for this firsthand account of these improvements, and his remark merely confirmed one of the significant points about this new Blandin program, which represents an investment of close to $2,000,000.

Its purpose—to further improve the efficiency of its operations and the quality of its product. Five years ago Blandin began its shift away from newsprint, as so many other mills in the United States have done, and today its daily production of 150 tons on two machines is entirely for magazine and book paper. It is a move which has paid off, not only in more profitable but in more stable markets. It means a brighter future for the town of Grand Rapids, which has doubled in population in a quarter of a century and now has 6,000 inhabitants, and particularly for the 300 employes of the mill, many of them natives of the community.

Briefly, the important new improvements include a groundwood bleach plant; a continuous pulp preparation system; modernized paper machines; increased high speed supercalendering; power plant expansion and improvement, and wood yard and wood room equipment. Five new buildings have been added:

1. Bleach plant.
2. Hydrapulper and pulp storage building.
3. Screen room, with blending tanks replacing beaters.
4. Finishing room addition.
5. Streambarker building.

Even with labor-saving improvements in yard, wood preparation and screen room, the elimination of jobs has been offset by creating new jobs in the bleach plant and on the supercalenders.

The new buildings are windowless throughout, in keeping with the architectural design which first made Blandin famous in this industry back in 1931. And here it seems fitting to pause briefly for a little historical background.

CHARLES K. BLANDIN, former St. Paul newspaper publisher who became President of the Blandin Paper Co., which he bought as an emergency measure. But he remained in the paper industry. He foresaw the unfavorable conditions existing today in the newsprint manufacturing field and directed up-grading of Blandin paper products.

CARL KIRKWOOD ANDREWS, Vice President and General Manager of the Blandin Paper Co. With Mr. Blandin, his career began in newspaper publishing and, with Mr. Blandin, he turned to papermaking, helping him to develop one of the outstanding mills of the country in Northern Minnesota.

Visitors to Blandin nearly always are interested in smooth-surface tiled inside walls in all of the new buildings. These tile walls are easy to keep clean and need of painting or maintenance is eliminated. Cost is about the same as paint and brick together. Tile was furnished by Kalamazoo Tank & Silo Co., of Kalamazoo, Mich.

Pertinent History

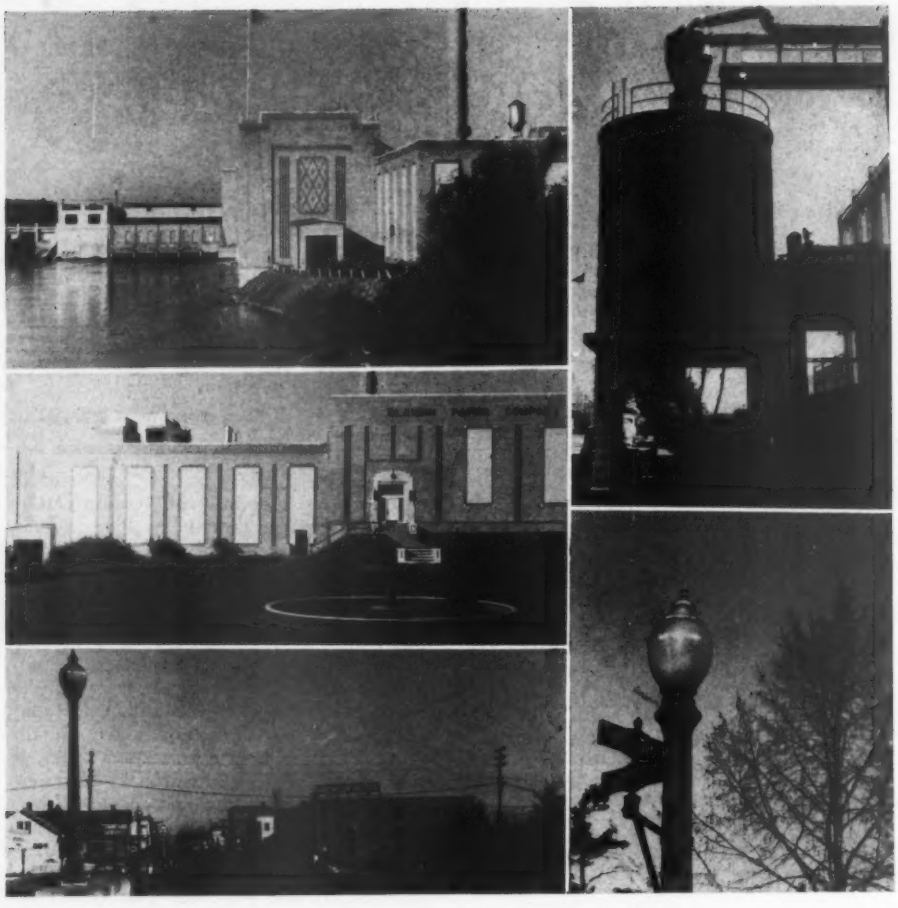
Back in 1916, the newsprint supply situation had become acute. Under conditions somewhat similar to those which exist today and setting a pattern of action which has also been forced on newspapers of today, the general manager of the St. Paul Dispatch and Pioneer Press went out and bought himself a newsprint mill.

The mill was a little 25-ton-a-day operation in Grand Rapids and the buyer was Charles Kenneth Blandin, who today at 75 is still an active president of the paper company bearing his name although he spends considerable time in Florida.

Necessity forced him to become a paper manufacturer and it was not his intention to stay in the business after the emergency had passed. But in 1927 he sold his interest in the St. Paul paper and for many years he has been a most effective champion of the paper industry in its relations with newspaper publishers. Long ago he pointed out to publishers their shortsightedness and prodigal attitude toward the newsprint, pulp and woods industries of this nation as well as Canada and as one who has been both a publisher and a papermaker, he was able to foresee the critical newsprint situation which has developed today.

When Mr. Blandin purchased the Grand Rapids mill in 1916, he selected Carl Kirkwood Andrews, who had been associated with him in the newspaper business for six years, as bookkeeper for the new mill. Just one year later, C. K. Blandin named C. K. Andrews as the manager of the mill, a position he has held ever since. Mr. Andrews now bears the title of vice president and general manager.

Both are men who worked up the ladder from the bottom rung. Mr. Blandin was born in Iola, Wis., and as a 12-year-old boy, he corresponded for nearby papers while living in New London, Wis., and two years later he was working on small town papers in Minnesota. For a few years he was circulation solicitor on the Minneapolis Tribune, working under Frederick E. Murphy, who later became publisher of that paper. In 1904, Mr. Blandin went over to the St. Paul Pioneer Press as circulation manager and soon after the St. Paul Dispatch and Pioneer Press were merged. In 1911 he became general manager. In 1919 he became owner. But he remained a close friend of the rival publisher, Mr. Murphy, and when



HERE ARE RECENT PICTURES taken at Blandin Paper Co. by PULP & PAPER. At left are two views of the windowless mill. The building which partly crosses the Mississippi River at upper left is grinder room and generator plant. Lower left is looking up wide and modern Pokegama Avenue from the Mississippi bridge.

Upper right a new ash conveyor and receiver carrying ash from two boilers. Ash is dumped into trucks which load under this receiver or storage bin.

Lower right—Here's the address at the Blandin office—First Avenue West and First Street West, Grand Rapids is a well-lighted, attractive modern little town.

HERE ARE SOME OF THE KEY EXECUTIVES of the Blandin Paper Co. (left to right): MYLES REIF, Superintendent; G. E. MEYERS, Production Mgr. and Purchasing Agent; GEORGE W. GOEIZ, Plant Engineer, and PAUL A. SMITH, Consultant to the company and retired Superintendent.

the latter died in 1940 an unusual tribute was paid Mr. Blandin, his former competitor. He was named estate trustee and vice president of the Minneapolis Tribune.

Mr. Andrews, who was born on a farm in York county, Pennsylvania, moved to St. Paul in 1910 when he became associated with Mr. Blandin. He was in the accounting department of the St. Paul Dispatch and Pioneer Press when he was offered the Grand Rapids post.

Very soon they doubled the capacity of the Grand Rapids mill and in 1931 they added No. 3 machine, bringing capacity up to 150 tons, and caused somewhat of a sensation in the industry when they built the first windowless paper mill. As in the case of the new windowless additions built in this past year or so, this style of building is designed to give better control and uniformity of drying, better atmospheric conditions and greater cleanliness.

Around this new mill was created a beautifully landscaped 7-acre park with lawns, trees, rock gardens, etc., which are shown in pictures accompanying this article and which never fail to impress the visitors in Grand Rapids. Sightseers from all over Minnesota come to see "the mill in the park."

In 1941, a new power plant was built. A new boiler and a 5,000 kva turbine were installed. The plant made the mill independent as far as power supply is concerned but it still has a tie-in to take from, or deliver power to the Minnesota Power & Light Co.

This was a necessary preliminary, also, to the extensive modernization which has been in progress these past couple of years.

Paper Machines Improved

There are now two paper machines in the mill—No. 1 which trims 110 inches and makes 50 tons a day, and No. 3, which makes 100 tons and trims 140 inches. The old No. 2 machine was taken out and sold in 1937, when all three were still on newsprint. This space is available if it is ever desired to increase the production of the Blandin mill.

Bird Machine Co. screens have been installed at the heads of both the existing machines and Sveen-Pederson save-alls have been added to handle excess white water from both machines. Lodding doctors have been installed on wet end dryers of both machines.

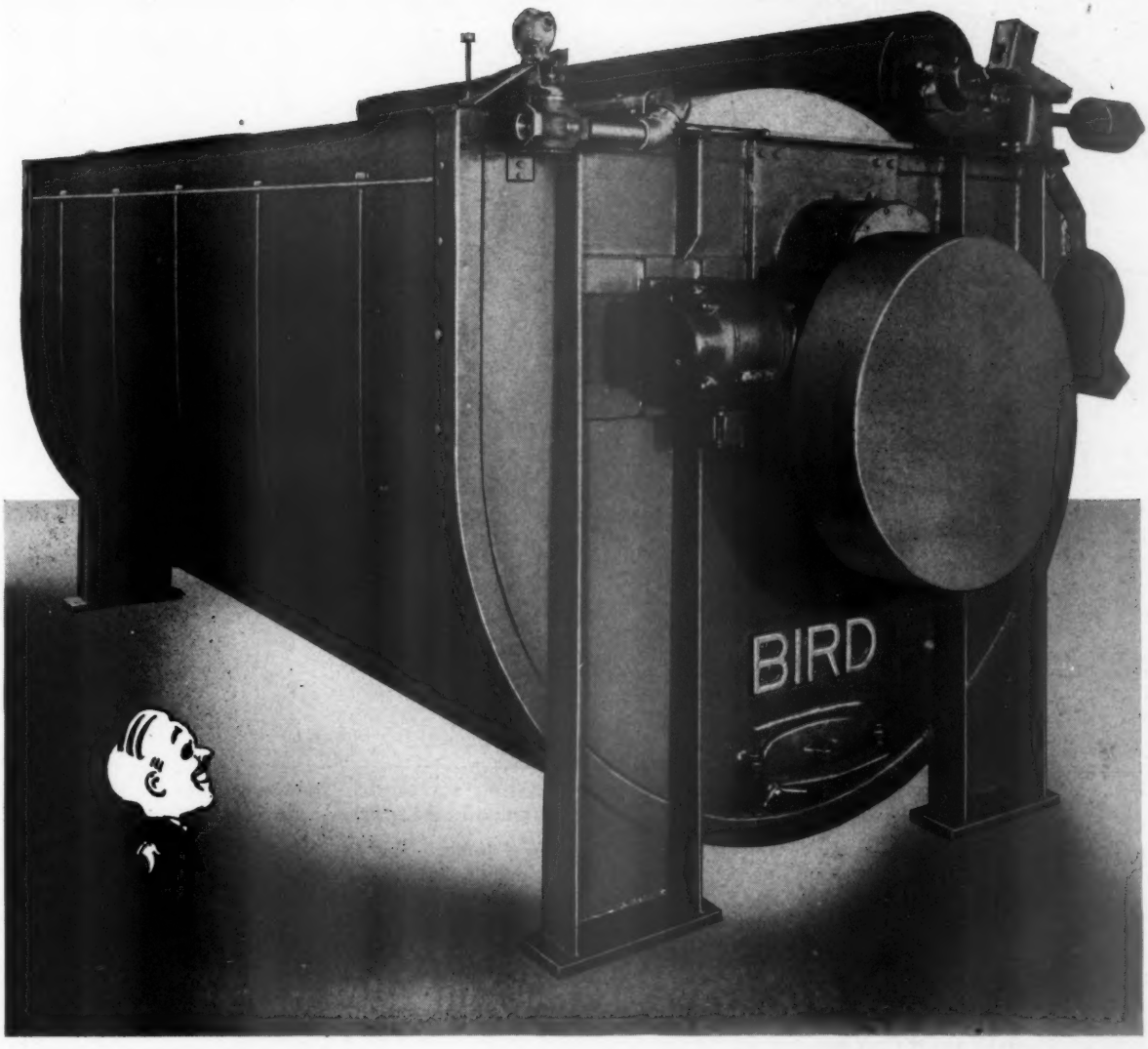
A great deal of work has been done on No. 3, to permit paper being formed at a maximum operating speed up to 1,200 feet per minute. Beloit Iron Works has supplied a new breast roll and also a new headbox and a breaker stack. The headbox is of Monel metal construction throughout and streamlined to provide smooth flow and easy cleaning and upkeep. The breaker stack is a new piece of Beloit equipment which has been arousing considerable interest in the industry, the purpose of which is to improve the finish and printing characteristics to the sheet. It is installed between the two sections of dryers.

On No. 1 machine there have been some improvements. Beloit Iron Works supplied a new Sandusky suction press shell for the first press and another for the wire couch roll on this machine. A new General Electric steam turbine providing direct drive on a line shaft for 1,000 ft. per minute speed has replaced the old drive.

Sulfite Pulp Preparation

This mill has producing capacity for 120 tons a day of groundwood, but it purchases about 40 tons a day of sulfite pulp from the Pacific Coast or Canada which it mixes in varying percentages with the groundwood, depending on the grade of paper desired.

It is very interesting to see how this



THIS BIG BIRD SAVE-ALL PRODUCES BIG RETURNS

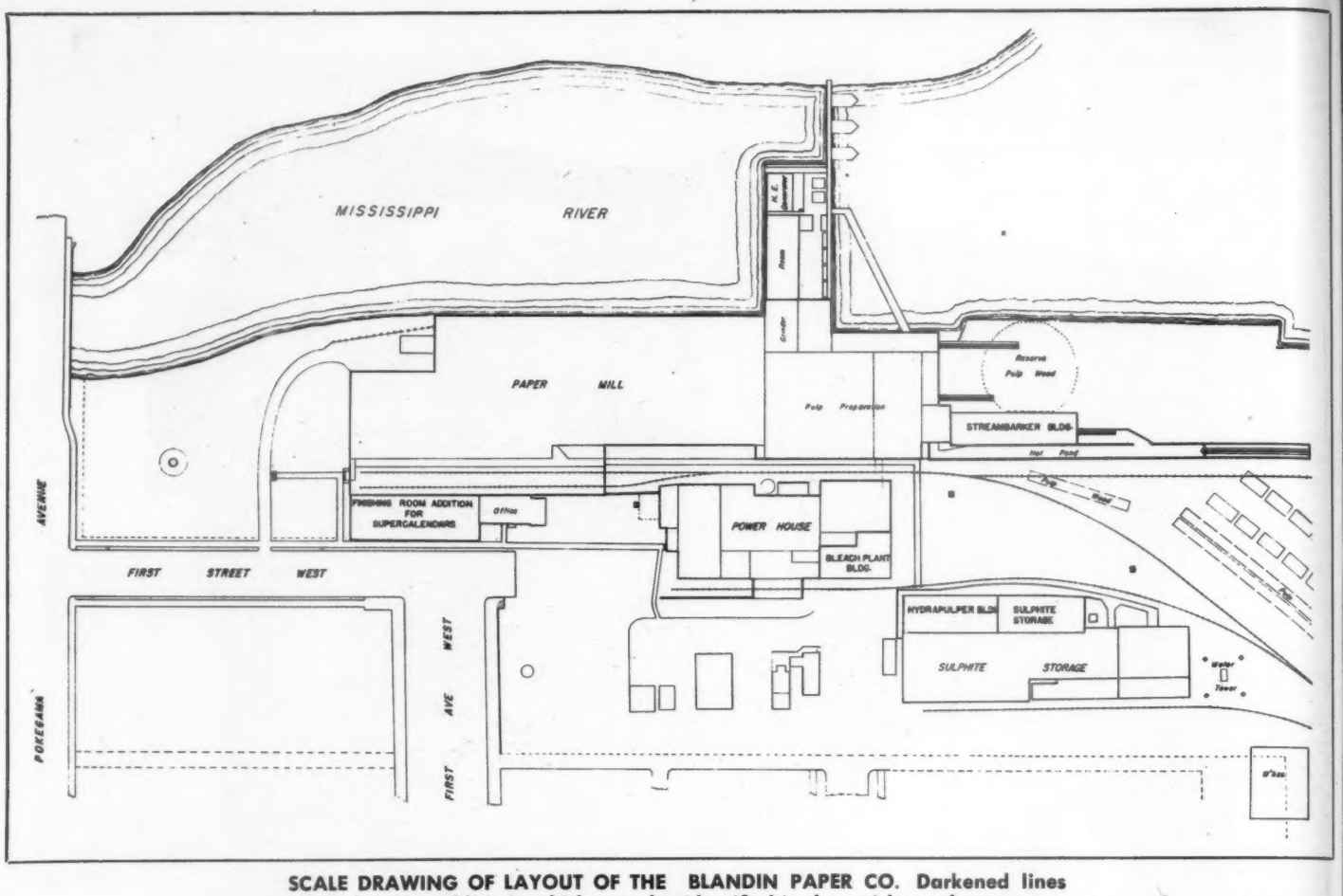
This whopping big Save-All handles 750 GPM. It's the largest of four sizes to meet any capacity requirement.

Today, no mill can afford to go without an efficient white water recovery system. Most mills have found that the Bird Save-All system assures maximum net return per pound of fibre recovered.

May we submit recommendations and estimates?

BIRD MACHINE COMPANY

SOUTH WALPOLE • MASSACHUSETTS



SCALE DRAWING OF LAYOUT OF THE BLANDIN PAPER CO. Darkened lines show the new additions which are also identified in the article on these pages.

company has provided for both continuous and improved treatment of this sulfite pulp as well as for the storage and handling of it.

A 16-foot Dilts-Shartle Hydrapulper has been installed for slushing it and a new 2-story building houses the Hydrapulper as well as stock chests and some of the pulp storage. A significant step in modernization, this Hydrapulper replaces two big beaters, providing space saving as well as more efficient treatment. It is driven by a 150 hp Westinghouse motor. Removal of all sulfite to storage outside of the mill is also an improvement as the mill is no longer cluttered up with pulp bales. Storage up to 2,500 tons is provided.

A vertical conveyor manufactured by the Lamson Corp. in Syracuse, N. Y., now lifts pulp from the first to second floor and a horizontal conveyor fabricated at the plant delivers pulp to the Hydrapulper, which is on the second floor. Shartle supplied the pumps for the Hydrapulper. One new Shartle Bros. Hydrafiner and two similar rebuilt units, combined with two E. D. Jones Imperial jordans, take care of stock preparation.

About 550 horsepower has been added to the sulfite refining system to provide the opportunity for better treatment of pulp, thus meeting the higher requirements for better grades of paper. The three Hydrafiners and two Jones Imperial jordans now provide a total of 1,050 hp for refining.

Screen Room and Blending Tanks

You will hear them still call this the beater room or beater-decker room, although the beaters are a thing of the past and the new structure is for deckers and screens and blending tanks.

An automatic measuring system for metering clay, alum and size in the new blending tanks is believed unique in this industry. It makes use of Bailey meters and automatic Grinnell control valves.

The old one-story beater-decker room has been replaced with a modern two-story building in the same location, accompanied by replacement of most equipment and relocation of the remainder. All finishing beaters have been taken out and are replaced by four vertical tile blending tanks. All four are provided with Shartle propeller agitators with bronze blades and shaft, driven by 25 hp. Westinghouse motors. There is a Falk reducer on each of the four tanks. Each tank has a capacity of 4,000 lbs. of stock.

Deckers and screens have been relocated. Two new Improved Paper Machinery Corp. fine screens have been added. There is now a gallery of 8 groundwood screens, all Impco machines. From 3 knotter screens, pulp flows by gravity down to the fine screens; then to deckers and thickeners on a lower floor and thence to storage chests. Appleton Machine Co supplied the decker drive.

The unusual system of controlling the blending of furnish, as previously mentioned, is achieved through a system of remote control valves, liquid level indicators, flow timers, etc., with all instruments and controls mounted on one central control panel. The Blandin staff devised this system in collaboration with the Bailey Meter Co. engineers. This metering or timing system replaces the old style of batch measuring. Now the rate of flow into the tank is measured, giving continuous operation and more precise control of measurements and quality of pulp. Diaphragm valves for clay, alum and size control are supplied by the Grinnell Co.

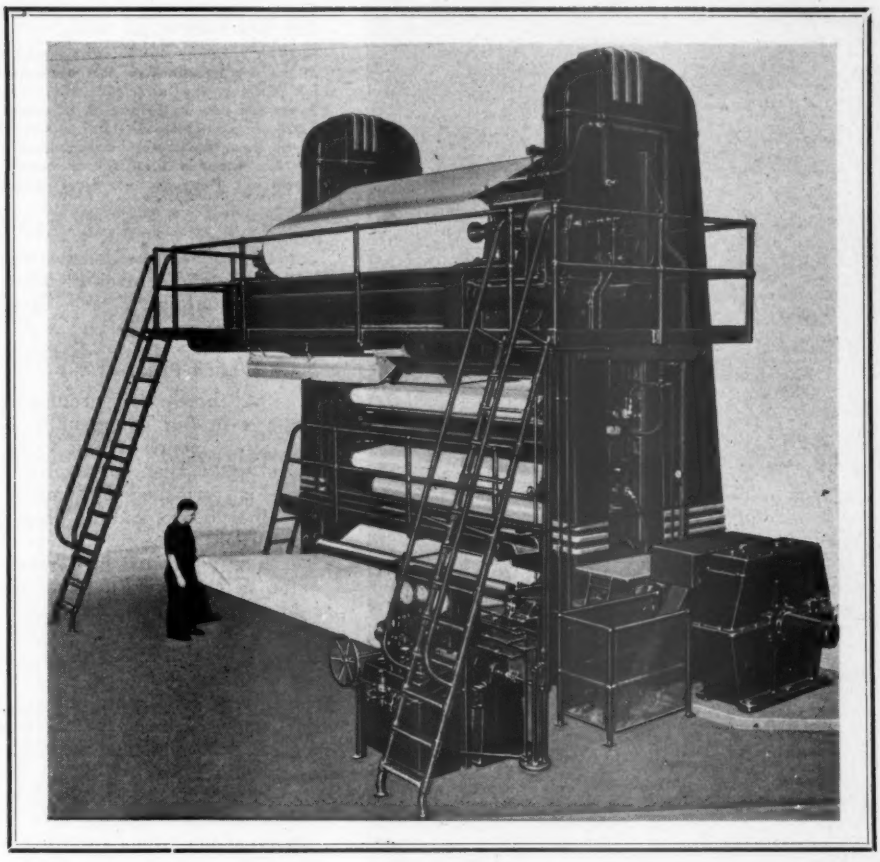
About 1,000 tons per month of Georgia clay supplied by the Georgia Kaolin Co. goes into the papers made at Blandin. An accompanying picture shows equipment on the blending tanks.

There is another central control panel, likewise equipped by Bailey Meter Co., for control of all refining.

Two new consistency regulators supplied by the DeZurik Shower Co., another Minnesota industry at the nearby town of Sartell, are installed in the groundwood system. These regulate groundwood delivered to the paper machines (see picture) and enable the mill to achieve a uniform density and measurement of pulp to the machines.

Shartle headboxes were supplied in conjunction with the Hydrafiner installation to provide for the recycling of stock. Shartle propeller agitators were installed in stock chests to provide increased circulation. Pumps were supplied by Shartle, Oliver United Filters and others.

A new laboratory has been built on the second floor above the screens and blend-



COMPLETE SUPERING EQUIPMENT FOR THE PAPER INDUSTRY

APPLETON

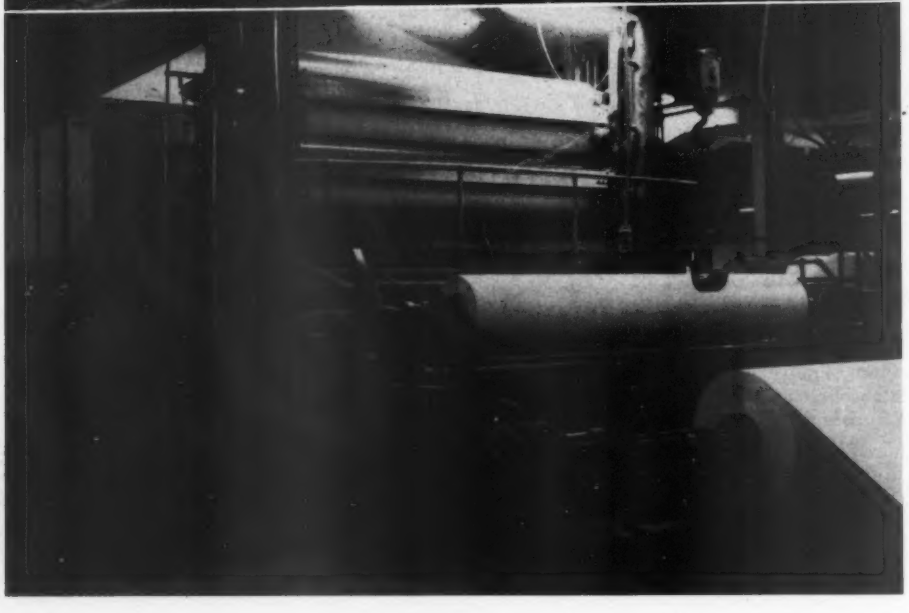
Superfinishing Equipment

at BLANDIN

The new supercalender room at the Blandin Paper Company, Grand Rapids, Minnesota, is a good example of the trend to greater efficiency and high-speed finishing in the modern paper mill. The illustration shows a recently installed 76-inch, 10-roll Appleton Super-stack operating at a speed of 1800 feet a minute. It is equipped with the Appleton Hydraulic Pressure System, Appleton Enclosed Oil Feed System, Appleton Operating Control Panel, Appleton New-Process Filled Rolls, Appleton Unwind Reel, Appleton Windup Reel with Electric Tension, Appleton Friction Brakes and Torrington Anti-Friction Bearings.

THE APPLETON MACHINE COMPANY • Appleton, Wisconsin

San Francisco • Portland • PACIFIC COAST SUPPLY COMPANY • *CASTLE & OVERTON, INC., 630 Fifth Ave., New York*



IN THESE PICTURES ARE SHOWN MACHINES which figure prominently in the up-grading of Blandin paper. At top is view in the new supercalendering room. Appleton Machine Co. has supplied a new 76-inch, 2,000-ft. per minute supercalender—none are any faster. Another supercalender, rebuilt by Appleton Machine Co., is 60 inches wide and operates up to 1,000 ft. per minute.

Next picture shows the Fourdrinier and the beginning of the dryer sections on the modernized No. 3 Beloit machine. The lower picture shows the dry end. Paper can now be formed at a maximum speed of 1,200 ft. per minute on this machine. Not showing is the new Monel metal construction headbox. Beloit has supplied also a new breaker stack and breast roll. There are two dryer sections.

ing tanks. More extensive facilities for laboratory and control work are provided, all contributing to the up-grading of Blandin papers.

New Bleach Plant

A three-story groundwood bleach plant, with full basement in addition, is the latest important unit to be added to operations at Blandin. Much of the equipment is furnished by Improved Paper Machinery Corp. and the plant will utilize the DuPont Solozone method of peroxide bleaching which has been extensively adopted in groundwood paper mills in recent years for improving quality.

Here another DeZurik Shower Co. consistency regulator has been installed doing a similar job to the two DeZuriks on the groundwood pulp being delivered to the paper machines. In the bleach plant, the DeZurik adjusts and controls the consistency of bleached stock leaving the plant.

Push-button controls for the entire bleaching operation are provided with a Fischer & Porter control panel and Rotameter and Bailey instruments. Everything is centered on one board.

An Impco vacuum thickener was selected to raise the density of slush groundwood to the desired consistency for bleaching and a Nash vacuum pump serves the vacuum thickener. Impco machinery is provided for mixing stock and chemicals; conveying stock to retention tower and discharging it from the tower; for dilution of stock, and for addition of after-treatment chemicals. The retention tower is of tile construction.

Sulfur dioxide is used at the end of the bleaching cycle to remove any residual bleach and to acidify the stock. The Ansul Chemical Co. of Marinette, Wis., laid out the plan for this after-treatment.

A silicate dissolving plant has been incorporated into the bleach plant, utilizing a Philadelphia Quartz Co. dissolver.

A Hillis-McCanna variable stroke plunger pump provides controlled metering of bleaching mixture into the stock.

Supercalenders

In the finishing room addition is a new Appleton Machine Co. 76-inch wide supercalender which is capable of a speed of 2,000 feet a minute. This is one of the fastest very recent models made by Appleton Machine—there are none faster. Specially designed anti-friction bearings and welded steel frames produce quiet and vibration-less stack running at all speeds and pressures.

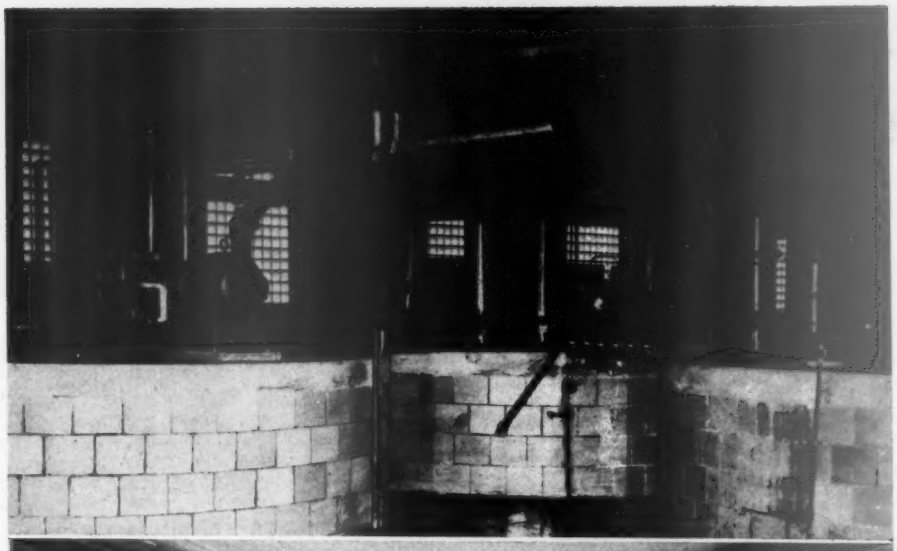
Another supercalender rebuilt by Ap-

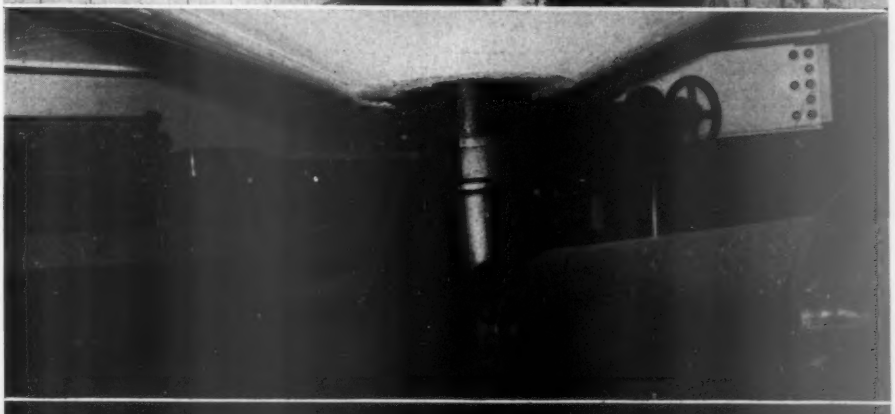
TOP VIEW SHOWS ONE OF THE MOST INTERESTING ARRANGEMENTS OF EQUIPMENT at the modernized Blandin Paper Co.—a measuring system for blending tanks which is believed virtually unique in the industry. This system was worked out by the Blandin staff with the assistance of Bailey Meter Co. engineers. Here are shown 3 of 4 new blending tanks for paper stock of 4,000 lbs. capacity each with automatic control valves and other drives on top of the tanks which measure rate of flow for clay, alum and size.

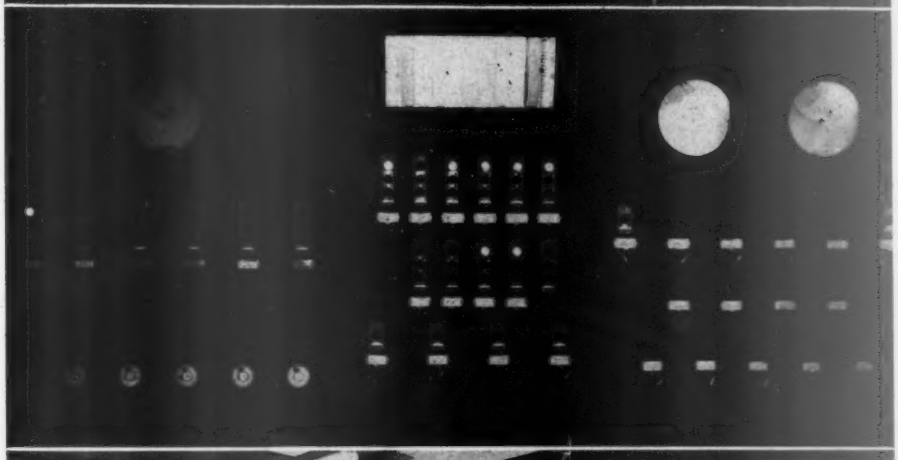
The second picture shows the bottom of one of these tanks and the outlet. This system of measuring permits continuous stock flow, instead of batch blending as in old papermaking systems.

The third view is of one of the Bailey Meter Co. control boards—there is one for the blending tanks and also one for the bleach plant.

Bottom view shows the new screen room, with Improved Paper Machinery Co. equipment. At upper level are three knotter screens. Stock flows by gravity in tile trough and down into eight Impco fine screens—five are in view. Stock drops to next floor to deckers and thickeners, then down to storage chests.







pleton Machine at Blandin is also modern in every respect, being provided likewise with anti-friction bearings, pneumatic loaders, etc. This one is 60 inches wide and is operated up to 1,000 feet per minute.

A Westinghouse variable speed electric drive of 250 hp is supplied for the new supercalender. A 150 hp motor drives the rebuilt one. A new rewinder is installed in connection with the supercalenders.

Unusual Switchgear Equipment

An ingenious engineering accomplishment at Blandin Paper Co., is the manner in which the mill keys the use of purchased electrical power from the Minnesota Power & Light Co. with the power of its own generation in an unusual arrangement of new switchgear equipment.

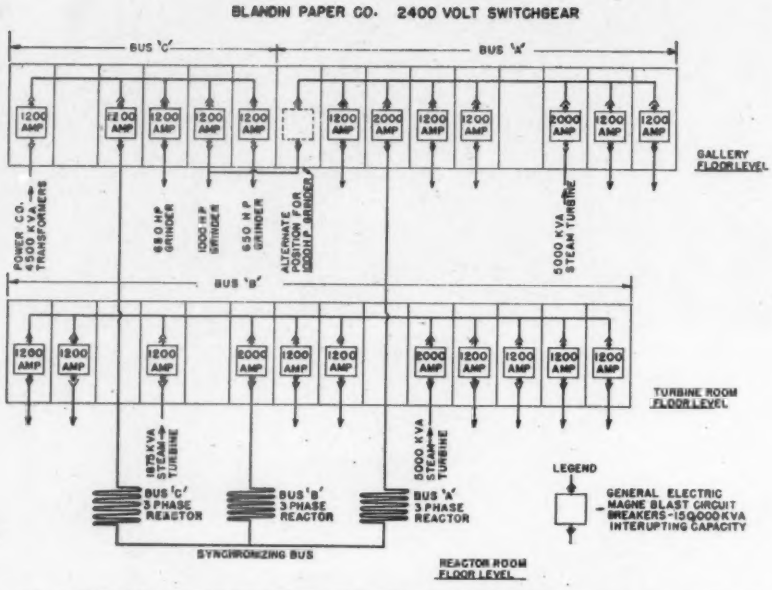
The Blandin company has its own hydroelectric power plant five miles from the mill but there is no direct transmission and the station is connected with the power company's system. Net purchased power is metered input at the mill less hydro generation, which depends on water supply at the paper mill's own plant.

So that system disturbances won't reflect unfavorably on speed regulation of paper machines, Blandin operates grinders direct from the power company lines and varies combinations of grinders to balance off its hydro.

Because the 2400 V. switchgear installed in the power plant was inadequate to handle possible short circuit currents and was dangerous to operating personnel as well as unreliable for sustained operating schedules in the mill, it was replaced through the General Electric Company by a complete new set of switchgear and remotely located duplex control board, (shown in drawing accompanying this article). The old switchgear was of the open buss type with the switching equipment arranged on a balcony at one end of the turbine room and the control board under the balcony.

A three-floor addition was built onto the turbine room to house the new equipment.

Because of the short circuit contribution of two 5000 KVA and a 1875 KVA steam turbines, a 4500 KVA power company tie, and ten large synchronous motors, it was not practical to provide breakers adequate



AN UNUSUAL ARRANGEMENT OF NEW SWITCHGEAR equipment for Blandin Paper Co. is shown here. It was arranged with cooperation of General Electric in order to provide complete safety and protection to personnel and more reliability in power supply to the paper machines. In a photograph with this article is shown the duplex control board for this switchgear.

This sketch shows the bus arrangement with reactors between buses. The purpose of the reactors is to limit maximum circuit KVA to within rating of circuit breakers. Reactors are placed between buses rather than in generator leads because there is no power loss in reactors except when there is an exchange of power between buses. If the buses were operated independently on their own generators there would be no power consumed at all in reactors, and no need for current limiting action since possible short circuit contribution on any one bus is within limits of breakers. Blandin's small hydro-electric power plant is about five miles from the mill with no direct transmission line. The generating station is connected into the system of power company, and Blandin takes power at mill from power company high line. This means Blandin must take a variable quantity of power from the company's system depending on availability of the water at its own hydro plant. It has a contract with power company for a block of purchased power bought on contract with a KW demand basis for billing. Net purchased power is metered input at mill less hydro generation.

Blandin found it isn't desirable for its steam plant to tie in with power company system to operate in parallel because system disturbances are reflected unfavorably on speed regulation of paper machine. Therefore it operates a combination of electric grinders direct from power company's lines, and varies number and combination of grinders so hydro is balanced off and contract demand approached. Frequency variations or even short power interruptions do not affect operation of mill. The combination of grinders Blandin is now using is shown on sketch. The alternate position of 1,000-hp. grinders on "A" bus is so interlocked it is impossible to get two circuit breakers in on same grinder, and get the equivalent of a short circuit between buses "A" and "C." During periods when steam plant is shut down all buses are tied together through the synchronizing bus and all power is drawn from the power company system.

to handle short circuit KVA on a single buss. Therefore, the load and generation were split up on two busses with the power company tie on a third buss. Three phase reactors to limit short circuit KVA were installed between busses through buss tie breakers. The circuit breakers are General Electric Company type AM-5-150 of both 1200 and 2000 ampere rated capacity having 150,000 KVA interrupting capacity. All the equipment is enclosed in the standard metal clad buss enclosures with relays and control operated from 125 V. battery current.

Along with the change of the 2400 V. system, a program of modernizations has been started with the 440 V. distribution system. Formerly the lower voltage system was taken from two 1500 KVA transformers to two busses with oil circuit breaker feeder switches. These feeders ran to various fused panel boards and safety switches throughout the mill. One of these was replaced by two 750 KVA and one 450 KVA dry type Westinghouse load center transformer stations with feeder breakers arranged as a unit. These are fed direct from the 2400 V. switchgear and are located at the load points. Four hundred forty V. power is then fed to Westinghouse circuit breaker panel boards for distribution to the motors.

Conversion of the remainder of the plant to load distribution is contemplated.

In the power plant, carbon dioxide fire-protection is being installed on all three generators.

For removing ash continuously from boilers, a new tile tank has been built and conveyor and the ash is dumped into trucks under the new storage bin or receiver outside the power plant, as illustrated in an accompanying picture.

Wood Handling and Preparation

Balsam, spruce and poplar are used in the production of groundwood. This wood all comes from Minnesota and averages 6 inches in diameter and comes to the mill in 100-inch lengths. Since Mr. Blandin purchased the former little mill on the Mississippi, the company has acquired extensive timber reserves of its own in Northern Minnesota. This wood comes from both the company's own logging operations and from those of other operators. A small percentage of wood is coming from farmers and every effort is being made to increase this supply by enlightening the farmers as to the opportunities in raising timber "crops." Much of the land in northern Minnesota is more suitable economically for growing timber than other agricultural products.

The pulpwood is sawed into 25-inch lengths for the 12 grinders which the mill operates. These are all four-pocket grinders. About 80 cords a day of wood is converted to groundwood.

In the wood room, a new stream-barker similar to those installed in quite a number of eastern mills is being installed ahead of the slasher. The drum barker is then slated to be used as a washing drum after slashing. A simple conveyor system will carry bark to a hog and storage bin and from there it will be trucked for use locally as fuel, but outside the mill.

It is possible the Blandin management will later decide to install a bark burner.

Changes made in the wood yard will permit elimination of the storage of any wood in the water. A new and relocated spur line and extensive grading and leveling has made this possible.

A new 40-ton American Hoist & Derrick Co. diesel electric crane, made at that company's plant in St. Paul, is operating so efficiently that it has replaced two old type locomotive cranes in handling wood. A 1¼-yard capacity Blaw Knox grapple is used in conjunction with the new crane. This combination is able to handle up to about 60 cords per hour.

The crane's design is based on a num-

PICTURES ON THE NEXT PAGE ARE OF NEW EQUIPMENT AT BLANDIN PAPER CO.

1—A new Lamson Corp. hoist loaded to take sulfite pulp to second floor of Hydrapulper building. Coupled with new storage facilities, this conveying system permits more efficient handling of pulp and eliminates cluttering up of floor with pulp bales.

2—Here the packages of pulp have been broken up and conveyor belt is carrying the pulp to mouth of new Shartle-Dilts Hydrapulper.

3—A closeup of DeZurik Shower Co. consistency regulator. Two are installed in groundwood system to regulate groundwood delivered to paper machines, giving uniform density and measurement of pulp. Another DeZurik in the bleach plant similarly effects control improvement. This one is in the groundwood system. The 3-way valve seen at outlet of the regulator transfers the flow from a circulating line to the measuring tank in the beater room.

4—Here is bottom of 16-foot diameter Hydrapulper and 150 hp. Westinghouse motor which drives it. This replaces two cumbersome beaters and eliminates batch treatment.

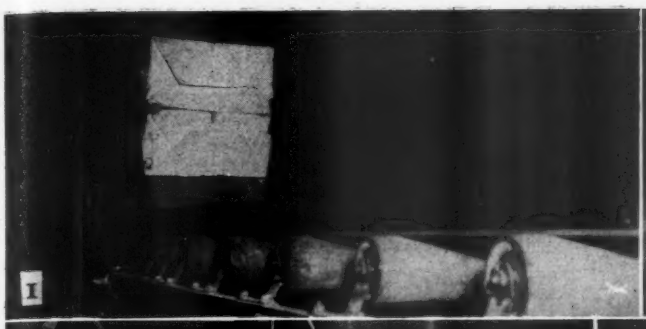
5—Groundwood testing laboratory. Drum on right is a dryer; freeness tester is on back wall.

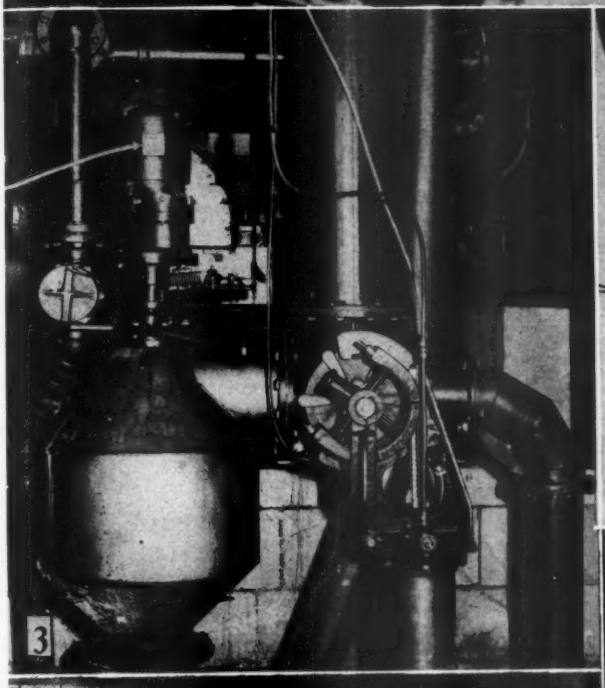
6—Screen trough and tile inlet settling tank.

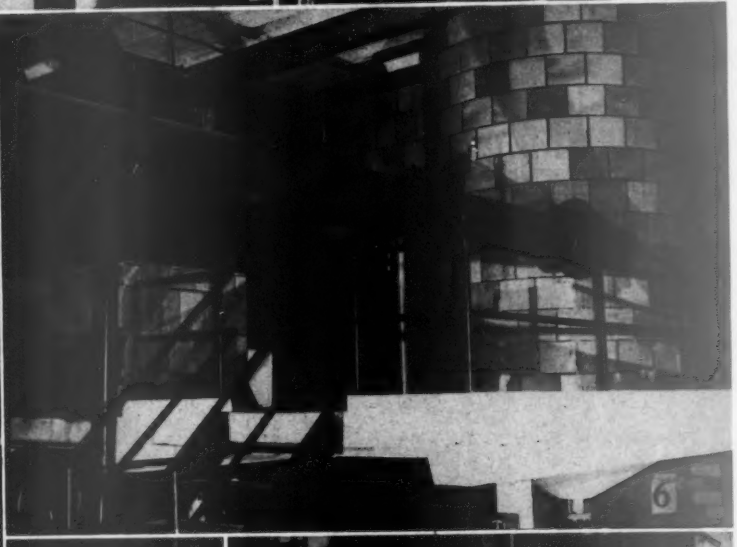
7—Inside of a blending tank showing propeller agitator with bronze blades and shaft. All finishing beaters have been replaced by Hydrafiners for continuous operation. Tanks are used for mixing and blending and more precise control of measurement and pulp quality.

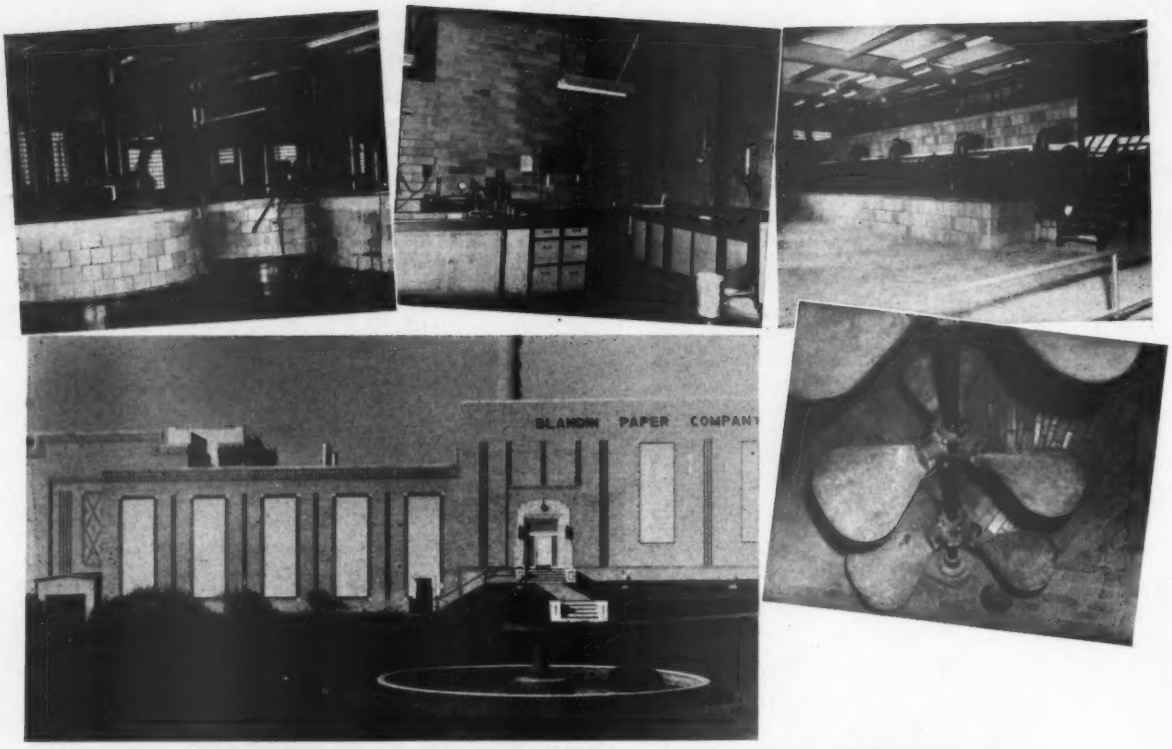
8—Shartle Bros. sulfite pump. Discharge leads to Hydrafiners. Stock is discharged to Hydrafiner storage chest which consists of regular propeller type agitator chest.

9—One new Shartle Bros. Hydrafiner and two rebuilt Hydrafiners, combined with two E. D. Jones Imperial jordans take care of stock preparation. They now give total of 1,050 hp. for refining; adding 550 hp. to the system.









The NEW LOOK and NEW EFFICIENCY in the NEW BLANDIN Paper Mill Grand Rapids, Minn.

ALL KALAMAZOO GLAZED TILE LININGS . .

Nation-wide interest is indicated in the recent modernization of the Blandin Paper Mill. It incorporates the most progressive ideas in paper mill construction. Paper mill visitors are amazed at the liberal use of tile on all new construction such as the second floor of the Beater-Decker Room, new Super-Calender Room, Bleach Plant and part of Hydra-Pulper Building. See the different applications in illustrations above.

C. K. Andrews, general manager, expresses it in these words — "Tile is a smooth, easy-to-clean, fast flowing surface that saves painting and maintenance and at a cost no higher than brick."

When modernizing — insist on Kalamazoo Tile.
Complete information on request.

KALAMAZOO TANK & SILO CO.

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ber of recent American Hoist patents using diesel electric power for traveling the crane along the rails while diesel power operates the turntable and load lifting mechanism direct through clutches. The crane is shown in a picture with this article.

The Men Who Directed the Job

This latest program of expansion and modernization at Blandin Paper Co. was carried out under the general supervision of Vice President Andrews. We have already related how his association with Mr. Blandin goes back 38 years—first, in the newspaper field, and then in papermaking.

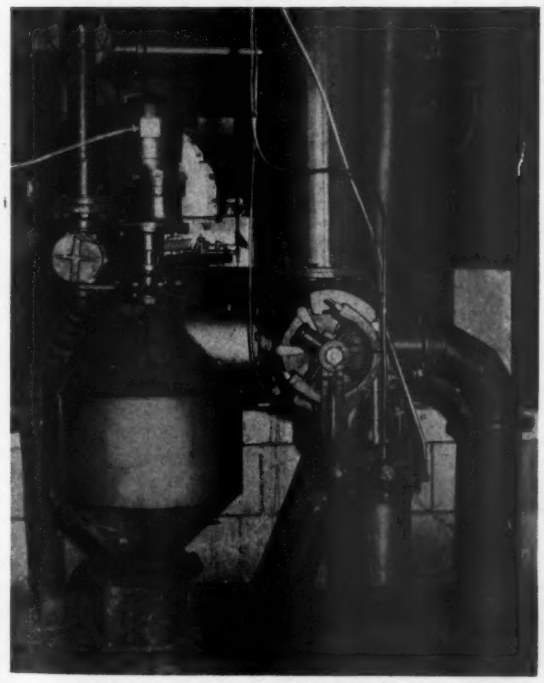
NEW 40-TON AMERICAN HOIST & DERRICK CO. crane, with 1¼-yard capacity BLAW-KNOX grapple, which had just gone into action in mill yard of Blandin Paper Co. when that mill was visited by PULP & PAPER. The great capacity of this diesel-electric crane and grapple has increased the productivity of this yard. Moving of some tracks and discontinuing of water storage has also improved the efficiency of these operations. All pulpwood now is stored on dry land.

Myles Reif, who has been at Blandin since 1942 and rose from technical duties to general superintendent, has had an active part on the program planning. He is a Marquette University graduate, his home was formerly in Milwaukee and Neenah, Wis., and he gained much experience while employed by Kimberly-Clark Corp.

George Goelz, as plant engineer, had an important role in the extensive electrical equipment additions, particularly in the installation of the switchgear equipment. He came to Blandin as power plant engineer and later his duties were extended to cover engineering for the entire mill. An Iowa State graduate, he was with Bailey Meter Co. and later was chief engineer for the municipal power plant at Valley City, North Dakota.

Although he has been retired as active superintendent for some time, Paul A. Smith, who still lives in Grand Rapids, is carrying on as a consultant to the Blandin company and his advice was often sought out in connection with improvements. Last month (Feb.) he passed his 68th birthday and rounded out 50 years of papermaking in Wisconsin and Minnesota mills. One son, Lester, is general superintendent at St. Regis Paper Co. in Kalamazoo; another, Ray, is forester for The Northwest Paper Co. and a third is coach of Chicago Cubs baseball team and of the New York Giants pro football team. Paul Smith has

DeZURIK AT BLANDIN PAPER CO.



DeZurik Pressure Type Consistency Regulator at Blandin.

Our progressive neighbors to the north have installed several DeZurik consistency regulators in their modernized stock system.

DeZurik builds the largest line of consistency regulators including the pressure type illustrated for installation in a closed stock system. Another type for installation after washers, deckers, and filters does not require pumping of the stock.

All DeZurik regulators can be furnished with recorders. Push button control gates are another new development.

The benefits of our wide experience in application engineering are yours for the asking. Write for eight-page bulletin which shows many typical installations.

DeZURIK SHOWER COMPANY
SARTELL, MINNESOTA

been at Blandin over 15 years.

G. E. Meyers, as production manager and purchasing agent, a Grand Rapids native son who worked up in the mill since joining the company in 1933, was involved in the equipment purchasing. Charles Richardson, as chief chemist, likewise had a part in developments. He came from the Institute of Paper Chemistry in Appleton, Wis., and prior to that from Boston. He has been at Blandin since 1939.

Among top officials in the management of the company are Christian H. Schacker, secretary, who has been in the St. Paul executive office since 1924, and Leo J. Thomas, C.P.A., controller at the mill.

Outside consultants who had important roles in the expansion program were Richard E. Lutz, consulting engineer, and Paul A. Laurence, contractor and engineer. Both are of Minneapolis and have engaged in other paper mill engineering work in the Northwest country. Mr. Lutz, of the firm of Helmick, Edeskuty & Lutz, 412 Essex Bldg., was consultant. Mr. Laurence, of the firm of Paul A. Laurence Co., 832 Builders Exchange, Minneapolis, contracted for buildings, foundations, tile and concrete tanks and machinery installation.

The Blandin Foundation

Any discussion of the Blandin Paper Co., is not complete without mention of the excellent labor relations built up here by Mr. Blandin and Mr. Andrews. Labor peace has been continuous for many years in this mill.

Nearly seven years ago, the Charles K. Blandin Foundation was created under which the mill is operated for the benefit of the people of Grand Rapids and its vicinity. The foundation finances civic, religious, scientific, literary and educational enterprises. Sums have been given to Boy Scouts and similar groups, civic improvements such as parks, a swimming beach and bathhouse at a nearby lake, have been financed.

There is obviously a genuine good feeling in Grand Rapids for the mill and its management for bringing so much good living to the community.

TAPPI NATIONAL MEETING
Scheduled for Seattle in 1949

A National Summer Meeting of TAPPI—in place of the usual Fall Meetings—will be held in Seattle, Wash. ,during August 1949. Meetings will be held at the University of Washington, probably on Tues. and Wed., Aug. 16 and 17, with mill visits Aug. 18 and golf on Aug. 19.

All divisions and sections of TAPPI are invited to participate. Already plans are being made for the event, which will be the first national convention of TAPPI on the Pacific Coast since 1940, under the direction of Dr. Joseph L. McCarthy of the University of Washington chemistry and chemical engineering department. Dr. McCarthy is Pacific Coast section chairman.

Approval of the time and place by the TAPPI executive committee at the national convention in New York in late February was merely a formality, as these decisions were left up to the Coast section.

Seattle was selected over other Pacific Coast cities for the meeting, primarily because of the proximity of important pulp and paper operations.

The new and modern St. Regis kraft paper mill in Tacoma, where St. Regis already operates a kraft pulp mill, should be in operation by the end of this year or early in 1948. Tacoma is 31 miles south of Seattle.

Everett, Wash., one of the great pulp and paper centers of the world, is 29 miles to the North. Here is Soundview Pulp Co., largest sulfite pulp mill in the world, and also a Weyerhaeuser sulfite pulp mill and Everett Pulp & Paper Co., the only soda mill on the Coast.

St. Regis, Soundview and Weyerhaeuser have or will have whole big log hydraulic barking and chipping plants in operation, demonstrating what many industry engineers have called the greatest advance in engineering made by the industry in recent years.

Farther afield will be other "show" spots. At Bellingham, 89 miles to the north, Puget Sound Pulp & Timber Co. is operating a modern pulp mill, an ethyl alcohol plant and a new Lignosite (plastic extender) plant (both products being made from the non-cellulose compounds of wood in mill effluent), and a new streamlined board mill. Nearby is the modernized tissue mill of Pacific Coast Paper Mills of Washington.

At Shelton, across Puget Sound, 79 miles from Seattle, Rayonier has its new ammonia base sulfite pulp operation and unique furnaces disposing of the liquor. At Port Townsend, 49 miles and also across the Sound, Crown-Zellerbach's kraft mill will be showing new and modern additions. There are four other mills on the scenic Olympic Peninsula across Puget Sound.

Many of the delegates to the convention undoubtedly will make a swing south to the Columbia River—Willamette River concentration of mills to see the vast Weyerhaeuser developments at Longview, including a new kraft pulp mill; a new magnesia base sulfite operations with a unique recovery system; a bark products plant, and a hydraulic barking and chipping plant. Longview Fibre Co., kraft pulp and paper mills, and Pacific Paperboard Co. are in Longview. At Camas, the multi-million dollar expansion of the Crown-Zellerbach mill, largest diversified specialty paper mill in the world, will be completed, including a seven-stage bleach plant. At West Linn, Crown-Zellerbach has completed the first machine-coated paper mill in the West. Several other mills in Oregon may be visited by the delegates.

WILBUR F. GILLESPIE (left), whose re-election as National President of TAPPI was one of the scheduled highlights of National TAPPI Convention in late February in New York. ALBERT E. BACHMAN (right), moved into the Vice Presidency. President Gillespie is Technical Director of Gaylord Container Corp. in Louisiana, and Vice President Bachman is Vice Pres. and Superintendent of Mississquoi Corp., a groundwood and board mill in Vermont.

All of these mills have the welcome mat out. The spectacular big timber logging operations in the west, as well as the new salvage logging will undoubtedly appeal to many visitors, too.

Other fields as well as sulfite pulping are of importance in the Far West today. Dr. McCarthy hopes to offer a program for every important division of TAPPI—particularly the kraft and by-products groups as well as engineering, sulfite, plastics, coating, recovery and other groups.

Leaders of the Engineering Division of TAPPI, which has had so much success with its Fall Meetings since the first one was held in Milwaukee in 1946, wants to carry on in 1949. They may hold the only other national meeting of TAPPI in 1949, aside from the New York and Seattle meetings, and it is likely to be held in November. Nevertheless the engineers also will be asked to assist in the Seattle program.

A Pacific Coast convention, of which this will be only the third ever held, is such an ambitious undertaking in comparison with the eastern meetings, that all groups will be urged to contribute. A special train probably will make the run from Chicago.

Another reason why the Coast section decided to hold the meeting in August, instead of in the Fall, is that it would permit delegates to bring their wives and children, if they wish, and get the families back home in time for school. Perhaps another reason is that August should offer sunny weather, whereas there would be a good possibility of tree-growing rains in a later month. A cruise through the lakes and inland waterways which abound around Seattle probably may be an added highlight of the convention.

EARL McCOURT, coordinator of sales and production for Consolidated Water Power & Paper Co., and Mrs. McCourt, of Wisconsin Rapids, Wis., enjoyed a tour of the Pacific Coast in January and a visit with Mrs. McCourt's brother in San Francisco.

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PAPER

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WEST LINN DINNER

AT CROWN ZELLERBACH WEST LINN, ORE. SERVICE PIN DINNER.

Top row, left to right: LOUIS BLOCH, Chairman of the Board, C-Z Corp., presenting 25-year service pin to WALTER J. ANDRUS; P. T. SINCLAIR, Res. Mgr. at West Linn, who presided as toastmaster.

Bottom row, left to right: Men receiving 35-year service pins, LLOYD BERNIER, MELVIN M. CALIFF, ALBERT W. FREDERICKS, LEO LARSON, ROLLAND H. WOODWARD and C. W. HEFT. GODFREY E. EKERSON and EDGAR G. ROTH were not present to receive their awards.

Crown Zellerbach Corp., West Linn, Ore., in recognition of five to 35 years of service with the company, honored 117 employes at a service pin dinner Feb. 4. The aggregate time with the organization denoted by the awards totalled 1,825 years of employment.

P. T. Sinclair, resident manager of the West Linn C-Z mill, presided as toastmaster. He introduced several guests, including company officials, visitors, and those men taking part in the evening program. George C. Diehl, Jr., west coast production manager of Time, Inc., was speaker of the evening; and Louis Bloch, chairman of the board, Crown Zellerbach Corp., awarded pins to the employees.

Sinclair reviewed difficulties his organization has experienced in getting into production of machine-coated paper at the West Linn mill. But, he pointed out, progress has been made in both methods of manufacture and in quality. He paid tribute to the plant personnel making up the organization's production team, each member of which is "working toward complete customer satisfaction" in making of 60,000 tons of the 2 million tons of coated paper made throughout the United States in a year.

Louis Bloch, active in Crown Zellerbach and predecessor companies for 54 years, said, before making the individual presentations, that to him service pins "measure the effort and energy and things worth while in the life of each and every person who is a part of our fine institution. They are a measuring stick and milestones in that which we wish to accomplish."

He said that those who received the pins were doing more than making paper; pointing out to them that they are "helping to make life better, more wonderful and interesting through helping to create these mediums of information (Time and Life) of outstanding reknown, reaching millions of readers of the newspapers we serve." Not only are these employes bettering life for themselves, their families, and community, but also for the governing state and nations; a benefit to all humanity, making life finer and more comfortable.

Crown Zellerbach executive personnel attending as guests included F. N. Youngman, vice president, Portland; R. D. Dickey, Northwest general sales manager; C. E. Bruner, management consultant and formerly resident manager of the West Linn plant; Otto Hartwig, general safety supervisor; Ken Taylor, industrial relations department, San Francisco; John Farley, industrial relations department, Seattle; from the West Linn mill, R. A. Dupuis, assistant resident manager; Clarence Enghouse, assistant to resident manager, and M. A. Wilson, purchasing agent and mayor of West Linn.

Service pins were presented to eight 35-year men, eleven 30-year men, fifteen 25-year, fourteen 20-year, fourteen 15-year, fifteen 10-year, and forty 5-year, of which 39 were men and one woman, Florence C. Hagen of the finishing department, first woman in the West Linn plant outside of the office force to receive a service pin.

W. L. THORNTON, Jr., general traffic manager of Kimberly-Clark Corp., has been elected president of the Wisconsin Paper Group, a non-profit organization for providing pool carload delivery service to customers of the Wisconsin paper manufacturers and converters.

HOWARD SHAFER GARDNER, Fibreboard Products, Inc., has been appointed head of the newly established central research and technical division of that company. His headquarters are at Antioch, Calif.

JAMES V. THOMPSON, formerly connected with the Atlanta district office of Dorr Company, has been transferred to the engineering division. Mr. Thompson lives in Calhoun, Ga.

Michigan Joint Meeting

K. P. Geohegan, of Dayton, O., vice president of the Howard group of mills of Ohio, told the annual Joint Meeting of Michigan Superintendents and the Kalamazoo Valley TAPPI section that national TAPPI policy favors broadening the membership and activities of that association. Addressing the meeting, which was held in Kalamazoo Jan. 15, Mr. Geohegan, TAPPI exclusive committeeman, said TAPPI wanted non-technical men interested in technical direction and general improvement of the industry.

About 420 mill executives and associates who attended also heard President Raymond T. Bennett of the Superintendents, who is from Ecusta Paper Corp., Brevard, N.C., advocate closer cooperation among local associations.

D. T. Quirk, mayor of Ypsilanti, Mich., and vice president of Peninsular Paper Co., was toastmaster, and Lemoyne Snyder, medico-legal advisor to Michigan State Police, discussed advances in detective work, contributing causes of violen death ranging from murder to traffic accidents, and he attacked system of vesting power of investigation in untrained coroners, who hold office by virtue of political success.

William Astle, beater room superintendent, Michigan Paper Co. of Plainwell, as chairman of Michigan Superintendents, and Leon H. Mimms, Kalamazoo Paper Co., chairman of the TAPPI section, headed up the two groups. Others introduced included these TAPPI officers: Paul W. Bartholomew, Hawthorne Paper Co., vice chairman; J. J. Harrison, Michigan Carton Co., Battle Creek, treasurer; and Stephen Kukolich, Lee Paper Company, Vicksburg, secretary; and the officers of the Michigan division of superintendents, W. F. Hathaway, KVP, treasurer; and O. W. Callighan, Edgar Brothers, secretary. Herbert M. Johnson, Allied Paper Mills, vice chairman, was not present. Glenn Sutton, Sutherland Paper Company, was introduced as fifth vice president of the national superintendents' association.

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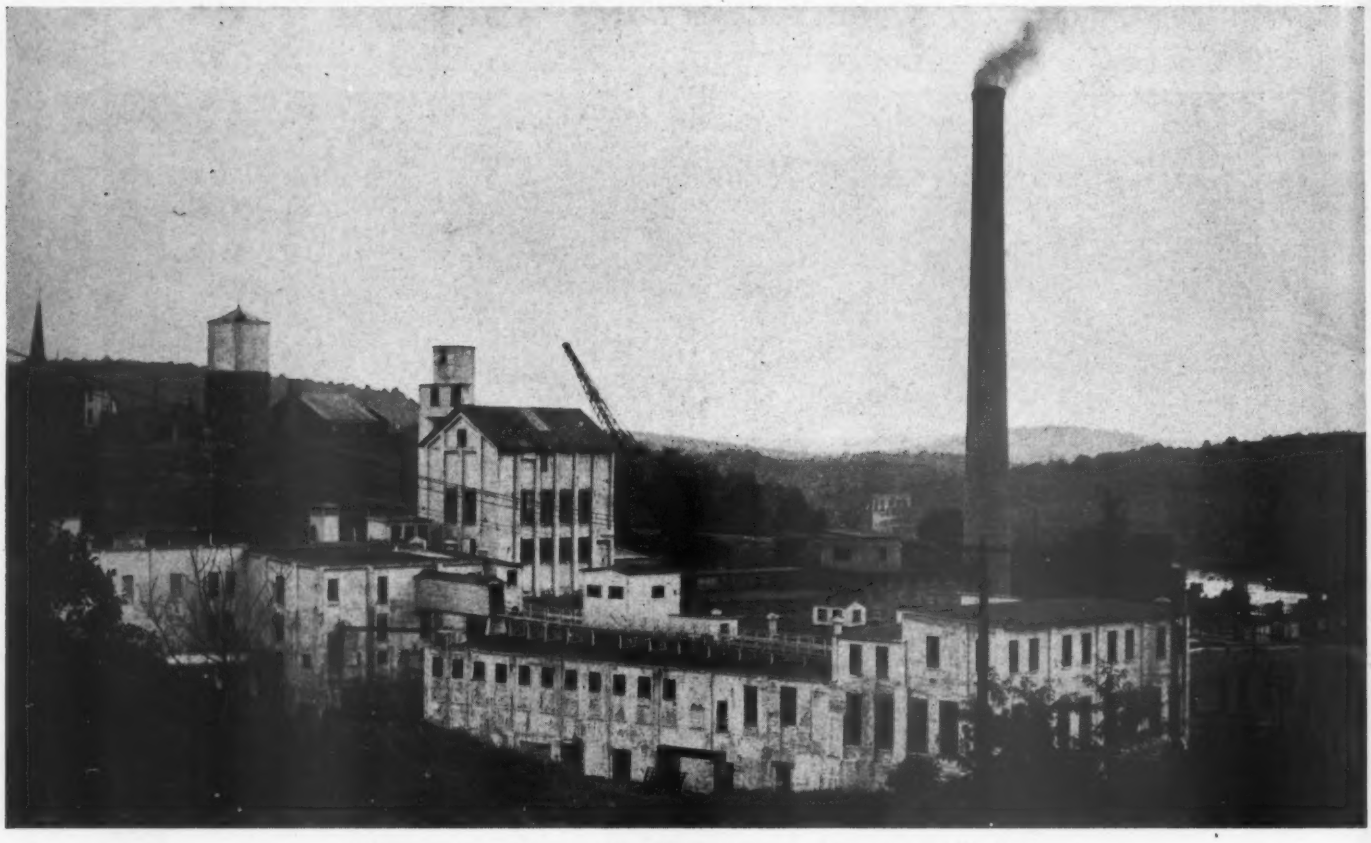
A MILL OF TOMORROW

NEW FEATURES AT NEWTON FALLS



AN EXTERIOR VIEW OF THE NEWTON FALLS PAPER MILL, INC., at Newton Falls, N. Y.

There are plenty of glimpses into "the paper mill of tomorrow" at Newton Falls Paper Mill, Inc., Newton Falls, New York. Without doubt, there are developments here which will become standard in many mills of this type during the next five to ten years, but which now are, to say the least, uncommon.

Credit for the development of processes and equipment here must go equally to the mill management and the machinery and supply firms. For management at Newton Falls allowed the mill to become the testing stage for several ideas and pieces of equipment. All are beyond the experimental stage now. They have been operating at the mill from several months to a matter of years. Some are now in the process of adoption by other mills.

Snugged in the hills of St. Lawrence County, the mill originally made hanging and embossed papers as well as book papers. It was the "cradle" for many top-notch members of the pulp and paper industry—Ralph Hayward, Bob Wolf, and the late Worthen Brawn, to name only three. Twenty-six years ago it was owned by the late Frank Moore, one time president of AP&PA and of the Westfield River Paper Co. Mr. Moore sold it to McGraw-Hill Publishing Co. and Chilton Publishing Co., foremost industrial magazine publishers who thereafter devoted the mill entirely to the production of book papers for some of their many publications.

In those days Ronald W. Hynes, now president of Newton Falls Paper Co., was a youth in the town of Newton Falls. Because he has risen from menial jobs in the town to head of one of the county's leading industrial plants, there has always been a peculiar kinship between town and mill. Newton Falls is essentially a mill community in which the mill management and employes take important civic roles and responsibilities. Recently completed at the outskirts of the town is a modern subdivision of homes for employes. Next nearest town is Carthage, but Newton Falls people find their community self-contained—and resident here, too, are many employes of the big Jones and Laughlin ore mill a few miles up the road on the main highway. The mill itself is located on the C. & A. Division of the New York Central.

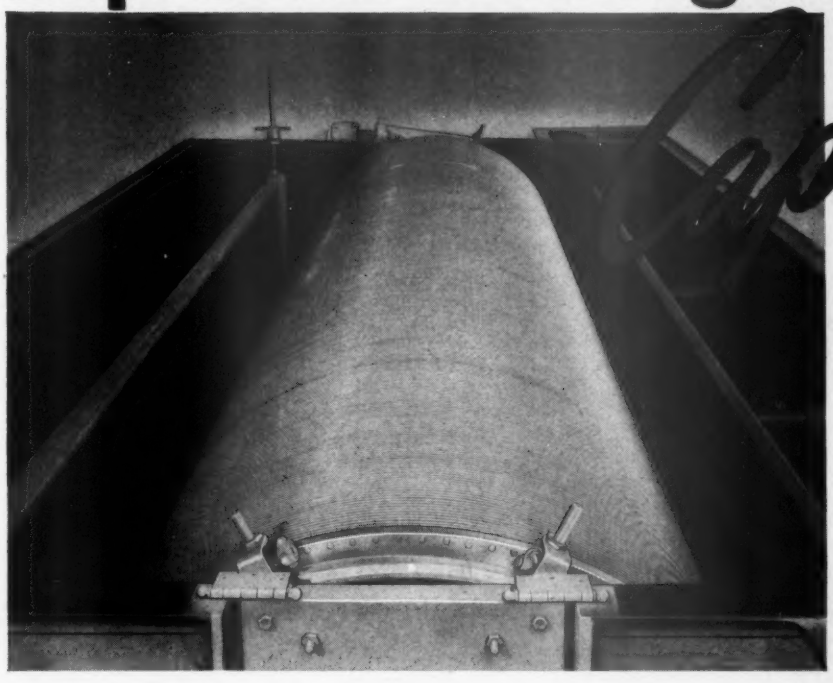
Associated with Mr. Hynes in the on-the-ground management are E. P. Bernier, plant superintendent; and other personnel includes J. W. Morrow, assistant plant superintendent; C. H. Baker, assistant plant manager; Melvin Nolan, coating mill superintendent; R. O. Osborn, plant engineer; and Rolland Brownell, assistant plant engineer.

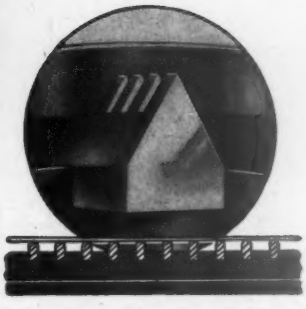
Six New Features

A brief and pedestrian description of the Newton Falls mill would say that it operates two Fourdrinier machines, stock development system, four jordans, four washers, two large supercalender stacks, a rewinder, two cutters, and a pair of coaters. But this does not tell the story. There are several genuine achievements in this mill. At least six are worth particular mention and will be taken up in detail in the order of the production flow. They are

1. The de-inking process.
2. The sulfite pulping "push-button" control.
3. The water filtering system.

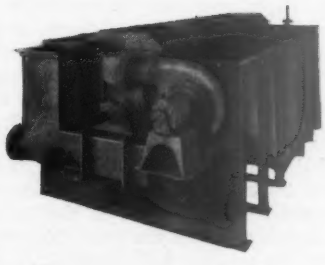
Improved Drainage Means *Capacity*





1 Specify Cylinders with High Rod and Wire for all Dewatering

Fast, efficient water removal is one of the most important factors of any dewatering device — whether it is a thickener, washer, or decker. Many mills claim 20% greater drainage with Cheney Bigelow high rod construction. That means increased tonnage, particularly with a modern all-metal vat designed to take full advantage of this feature.



2 Use Cheney Bigelow Air Discharge Principle for Added Capacity, Low Operating Costs

Combine Cheney Bigelow improved cylinder drainage with the other outstanding advantages of Cheney Bigelow's air discharge principle and you really have efficiency at low cost. Tonnage and cleanliness on the one hand — low upkeep on the other. Look into these features: no couch — new type seal — easy adjustments for volume and consistency — new, protective vat coatings — *quick delivery*. Remember — you don't have to squeeze it off . . . just blow it off.

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Pulp and Paper Mill Equipment

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EXECUTIVES AND OFFICE STAFF of Newton Falls Paper Mill, Inc., pose for their picture. President RONALD W. HYNES is on the lower step. In the inset is shown the company's Guest House at Newton Falls, N. Y.

4. The "Syco" mechanical paper machine drives.

5. The "gloss reading" on the main supercalender.

6. The Microjet coating process.

Throwing the spotlight on these six details should not minimize the remainder of the mill operations, for over recent years it has come to be a unified layout embodying basic straight-line production principles. The photographs shown with this article (some were taken for **PULP & PAPER** by Miss Gloria Bernier, mill chemist and daughter of the superintendent) reveal to the reader a book paper manufacturing plant modernized to the fullest extent possible within the limitations imposed by the original mill buildings. That Newton Falls is still embracing progress is illustrated by the fact that plans are under way for a new full-scale laboratory.

Raw materials are both waste paper and sulfite pulp, the latter from several sources including Weyerhaeuser, Howard Smith, and Mead Corp. Both pulp and waste paper are brought to the mill on its own spur track and stowed by Towmotor from the cars, a swift and simple operation. Waste is tagged with the date of receipt and weight of bale, a red tag denoting ledger stock and a yellow magazine stock. When treatment starts, waste is taken from storage, again by Towmotor, to the 14-foot Hydrapulper which has been charged previously with water at 160 degrees Fahrenheit into which has been introduced Solozone bleaching agent with caustic soda, about one and a half per cent of each. The stock is at six and a half to seven per cent consistency when it proceeds to two cook tanks of 12,000 pounds capacity each.

The screen room has Waterous positive driven screens made by the Montague Mast Co. and washing is done by an Impco vacuum washer. Stock is pumped by agiflow circulating pumps from the cook tanks to the black stock chests and then over rifflers onto the flat screens. Screen-slits run horizontally rather than longitudinally to avoid plugging, and screens here do not require the operator to continually hose down the screen. All stock not going through the flat screen is run through the tailing screen and returned to the black stock. Final stage here is over the Impco washer.

From the stock-breaker chest and through the Lancaster stock travels in 8% consistency through screw conveyor to the bleach stock washer and heads for the first-to-be-installed Bird consistency regulator on its way to the stock preparation room. Two Shartle Agiflow pumps are part of the layout at this stage.

Stock Preparation

The big Stebbins tile sulfite chest is fronted by the modern "push-button" pulp control panel which was installed by the engineering department at Newton Falls.

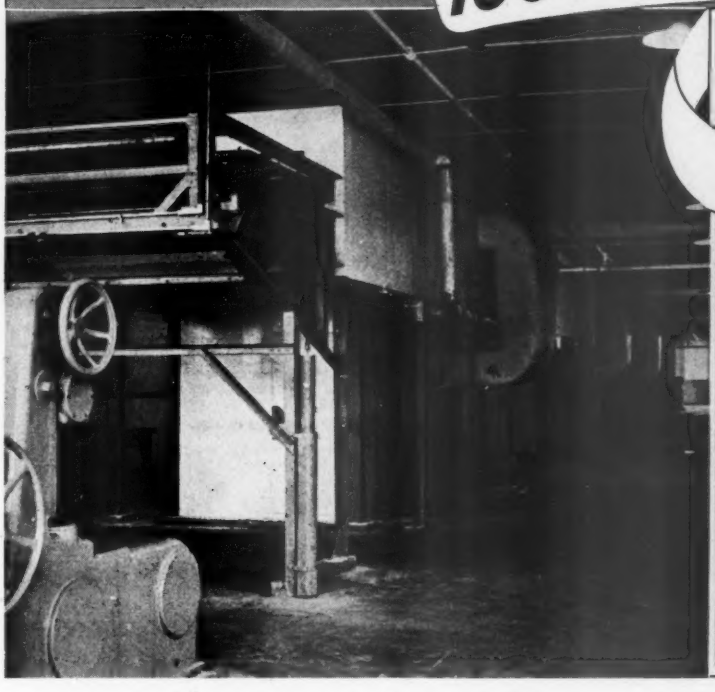
Since the discovery of papermaking, it has been the goal and aim of every progressive papermaker and paper machinery builder to produce the hundreds of different types of paper through science rather than use of the five senses. With the progress that has been made, there are still five main objectives that each papermaker and machinery builder is continually striving to obtain: better quality, greater production in a minimum of space, and a minimum of error and effort by the human element. Newton Falls has gone far toward these objectives.

In its Shartle sulfite treatment system, a 14 ft. cast iron batch Hydrapulper with a 78-inch rotor operating at 155 R.P.M. and driven by a No. 2 V belt drive connected to a 150 H.P. motor was chosen to give fast defibering of the bleached sulfite, and placed on the machine room floor level. Water is metered into the Hydrapulper with 3,000 lbs. of bleached sulfite to give a consistency of 6%.

After defibering the slushed sulfite is dumped through a 12" line to a 1350 cubic foot development chest, capable of holding 3,400 lbs. of pulp at 6% consistency, and the addition of dilution water to reduce the mass to 4% consistenty. To this chest is attached a 16" Class "L" agitator

at NEWTON FALLS PAPER MILL

"Microjet" Coated Paper Is Air Dried At Speeds Up To 1000 Feet Per Minute



WITH MODERN ROSS Straight Pass Air Dryers

The first of its kind to be installed, the new "Microjet" coating line at Newton Falls Paper Mill at Newton Falls, N. Y. has set an entirely new standard for coating quality and speed.

Coating on a 25 x 38 (500) ream basis applied in weights of four to twelve pounds is applied and dried at speeds up to 1,000 feet per minute with the new coating line consisting of Waldron Microjet Coating equipment and the ROSS Straight Pass Air Dryers illustrated above.

Two ROSS Air Dryers are now in operation in this mill. Each is 150 feet long, and divided into four temperature zones, each with independent control of heat and air. Special instruments control the moisture in the dried paper and regulate the amount of steam delivered to each zone heater. For maximum steam economy, most all of the air is recirculated.

Since this initial installation 6 other Microjet Coaters and ROSS Air Dryers have been put into operation in other mills and additional units are being manufactured.

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VIEWS OF EQUIPMENT IN NEWTON FALLS PAPER CO., NEWTON FALLS, PA.

1, Reading the gloss indicator.

2. View of De-Inking Hydrapulper with V-belt drive.

3. Close-up view of the gloss indicators on the calendar roll.

4. The de-inking plant's control panel board.

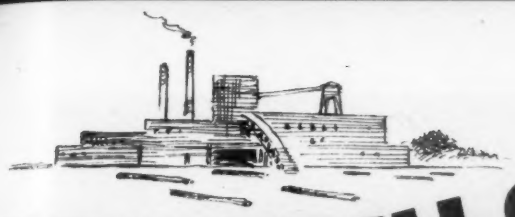
5. Bottom view of the De-Inking Hydrapulper.

which is directly coupled to a No. 6 Hydrafiner, operating at 450 R.P.M. and driven by a 300 H.P. synchronous motor with a slide valve located between the agitator and the hydrafiner.

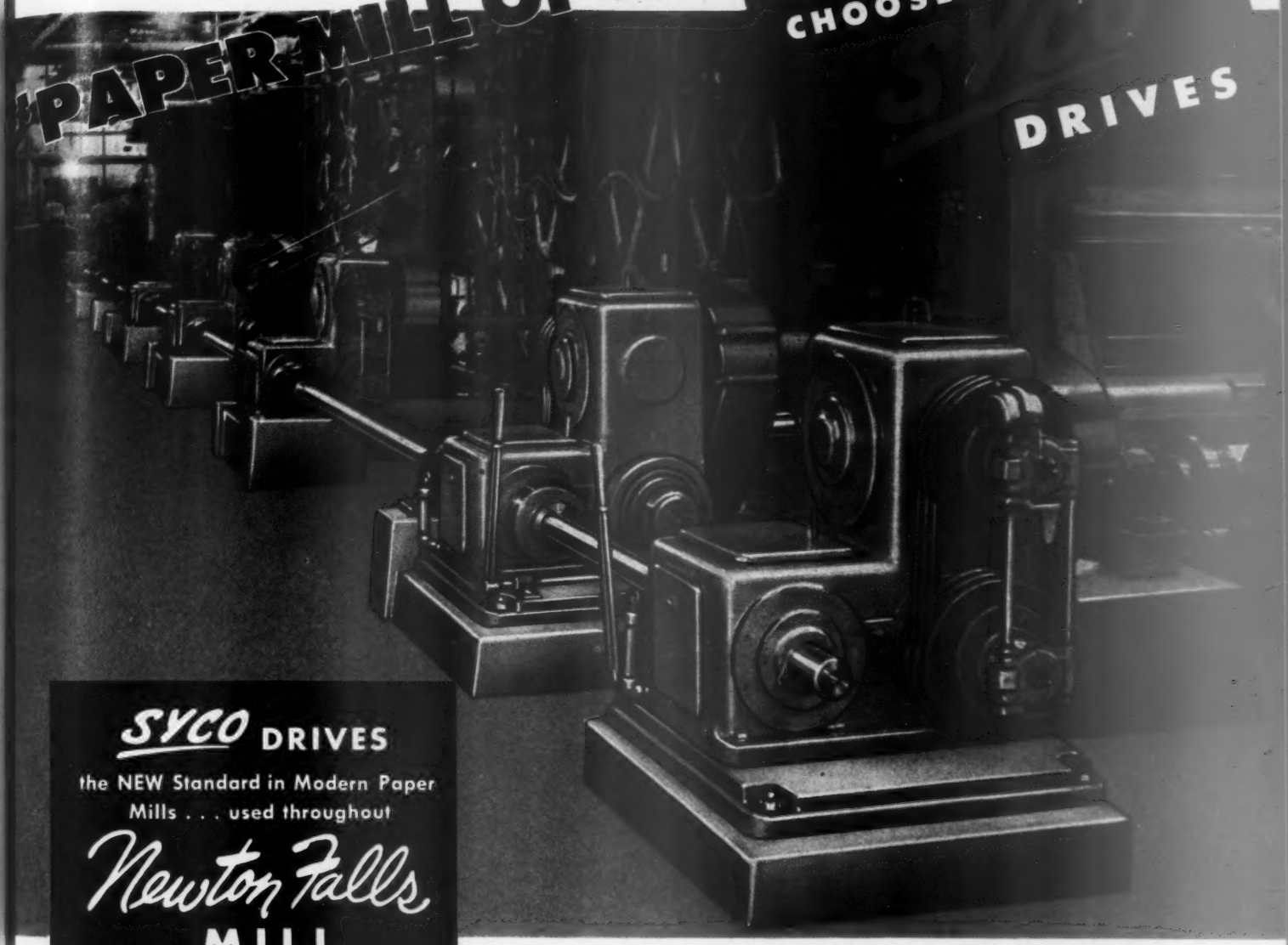
The agitator has the secondary discharge for agitation by by-passing the Hydrafiner through a hydraulically operated valve and into the intermix trough of the chest, and thence to the chest. When refining, the by-pass line is closed and the pulp passes into the Hydrafiner, out through a two-way hydraulically operated valve and again into the intermix trough, giving abrasion and refining treatment to the fibers.

When the desired quality of the pulp is obtained, it is pumped through the Hydrafiner, through the hydraulically operated valve, and into the 9500 cubic foot sulfite storage chest. At each end of this chest is a 60" variable propeller pitch agitator driven at 103 R.P.M. through chain sprockets by a 40 H.P. motor. Here pulp is stored until required.

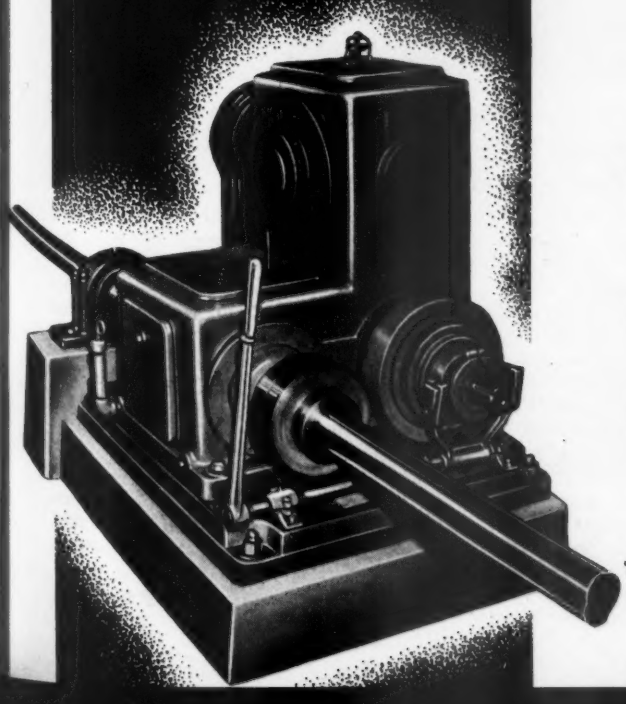
On the floor above are located two 1400 cubic foot mixing chests to which are at-



"PAPER MILL OF TOMORROW" CHOOSES SYCO DRIVES



SYCO DRIVES
the NEW Standard in Modern Paper Mills . . . used throughout
Newton Falls MILL



NEWTON FALLS PAPER MILL, INC.
and many other progressive paper manufacturers find that...

SYCO is Rugged...
—for long trouble-free life and uninterrupted production

SYCO is Efficient...
—saves space and power costs

SYCO is Simple...
—adjustment and maintenance easily done by average machine tender or mechanic

SYCO is Available Now!
Standard units readily tailored to fit your machine by our experienced paper mill engineers

WRITE TODAY!
No obligation for a prompt survey of your requirements.

THE MODERN MECHANICAL PAPER MACHINE DRIVE

SYCO MANUFACTURING CORP., SYRACUSE, N. Y.

VIEWS OF EQUIPMENT AT NEWTON FALLS PAPER CO., NEWTON FALLS, N. Y.

1. Lower view of the Shartle Bros. (Middleton, O.) pulp development system, showing the Hydrapulper and Hydrafiner.

2. Shartle Agiflow pumps in the pulp development system alongside blending chest by Stebbins Engr. & Mfg. Co., Watertown, N. Y.

3. View of automatic backwash rapid sand filter by Hardinge Co. of York, Pa.

4. View of pulp development control board.

tached 16" Class "L" agitators for thorough mixing and agitation of the pulps and chemicals.

Directly in front of the chests is the panel board for control of the entire system. Here by push-button control, water is metered into the Hydrapulper and recorded. The handwheel for adjustment of the Hydrafiner is located with an ammeter to give the input horse power required to develop the different types of sulfite used. The opening in the floor to load the Hydrapulper is located adjacent to the panel. The controls for directing the pulp through the valves, pumps and chests are placed with level indicator for control of the quantities of pulps moved through the system.

From here, the correct quantity of sulfite is metered into the mixing chests with the required quantity of chemicals and de-ink pulp. Thorough mixing and agitation is accomplished by the 16" Class "L" agitators, and then the mass is dumped through the floor to the machine storage chests, on the systems floor below, to await jordaning.

The Hydrapulper is not only used for defibering sulfite but is also used to pulp the entire broke from the mill, the defibered broke is dumped to the de-ink storage chests, to await metering into the mixing chests.

The main and modern feature of this entire system is that the only equipment that can be seen by the operators is the mixing chests, panel board, and baled sulfite, yet by his touch and settings of the control, the required qualities of the fibres are produced.

Automatic Sand Filter

Water is filtered through a modern Hardinge automatic sand filter at the rate of 2,500,000 gallons and a maximum capac-

It takes foresighted mill management to give the industry advanced methods!

an example:

MICROJET Coating *at* NEWTON FALLS PAPER MILL

NEWTON FALLS PAPER MILL, INC.
NEWTON FALLS · NEW YORK

June 13, 1947

Mr. B. H. Newcomb, President
John Waldron Corporation
New Brunswick, New Jersey

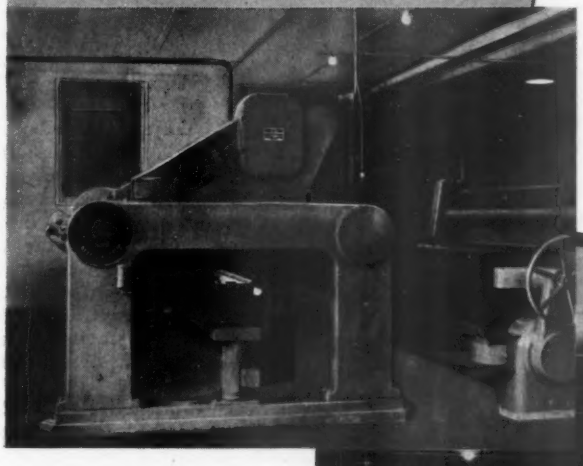
Dear Ben:

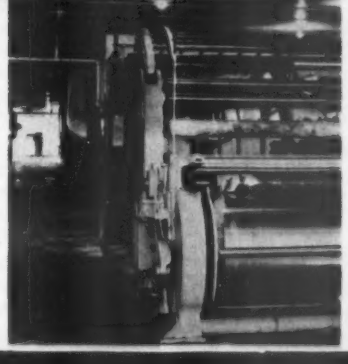
Our Coating Organization has finally reached a point where I feel it has become proficient enough in the operation of the "Micro-Jet" that I can honestly evaluate the machine itself. We are obtaining a production of paper as well as a quality of paper that is very satisfactory to us. The machine operates very smoothly at 900 feet, and within two months we expect to be running steadily at that speed.

We wish to commend you and your organization for perfecting this machine, and we thank you for your many courtesies.

Sincerely yours,
NEWTON FALLS PAPER MILL, INC.
R. W. Hynes
President

RWH:h





Above: WALDRON Microjet Coating Unit featuring air blade applies high solid coating at Newton Falls Paper Mill, weights of four to six pounds, 25x38 (500) ream basis, and has the ability to apply even the highest weights of Baryta coatings.

At right: Winder end of Microjet line showing WALDRON Tension Rig and WALDRON Automatic Winder.

TO the foresighted management of Newton Falls Paper Mill, Inc. goes the credit for being the first to adopt an advanced method of coating that is now recognized as a major development in the science of coating.

Their WALDRON Microjet Coating equipment, operating in tandem with a ROSS Air Dryer, is coating and drying 102 inch wide paper at speeds up to 1,000 feet per minute, fully justifying the prediction made by Mr. R. W. Hynes shortly after the new coating line was installed.

As designers and builders of the Microjet Coaters, we are proud of the part we have played in this notable processing achievement.

Coating Machines
Creping Machines
Embossing Machines
Floor Cov. Machines
Gumming Machines
Laminating Machines
Printing Machines
Rubber Mill Machines
Wall Paper Machines
Waxing Machines
Winders and Slitters
Special Design Machines

JOHN WALDRON CORP.

Main Office & Works NEW BRUNSWICK, NEW JERSEY

CHICAGO - 6 — 201 N. WELLS ST.
NEW YORK - 17 — 350 MADISON AVE.
BOSTON - 9 — 79 MILK ST.

BUILDERS OF QUALITY MACHINES SINCE 1827

ity of 4,000,000. Newton Falls' water source includes some drainage from swamps with attendant suspended organic matter, so that water filtration becomes doubly important at this mill. About 70% of the water entering the plant filtration system is used in the paper process; the balance supplies the town of Newton Falls with its domestic supply. Thus the filtration program was approached from both the industrial and domestic standpoint. The previous water treatment system had become inadequate for this dual purpose, so two years ago a Hardinge automatic backwash rapid sand filter was installed.

This filter has been in continuous operation, without a single shut-down since the installation was completed, and has constantly delivered water containing less than 0.1 part per million of suspended solids. This operation is accomplished without the aid of preliminary flocculation or presedimentation. The only treatment beside filtration is the usual chlorination, followed by dechlorination with ammonia. This treatment insures safety of the drinking water and also aids in keeping the filter sand clean. The filter effluent for the mill process goes to a clear water well directly beneath the filter. The rest of the effluent is sent to the municipal water supply storage tank. The filter cleans its own filter bed of accumulated solids, automatically.

The efficiency of the filter depends on the following factors: quantity of suspended solids, quality of suspended solids, viscosity of liquid, and fineness of filter sand. Where it is used on paper mill liquid wastes and the suspended solids run above 1½ lb./1000 gallons, preliminary sedimentation is recommended to prevent excessive running of the cleaning apparatus.

Filter rates of 2 to 3 gal./sq. ft./min. are recommended for industrial water filtration. For municipal water supplies filter rates of 2 gal./sq. ft./min. are recommended with flocculation and sedimentation ahead of the filter. In practice, higher rates have been used.

Backwash water removed from the filter bed will vary from a fraction of a percent when in water filtration to 10% of the input paper waste water when the influent to the filter may contain as much as ¾ ton of fibre and clay per million gallons. The filter can be kept constantly in operation as during the cleaning cycle only one compartment at a time is out of service.

The old digesters are no longer used, of course, for their original purposes, but they have been cleverly developed as heat exchangers and to recover steam.

New Machine Equipment

Largest of the two machines, which are 86 and 104 inches, is being completely rebuilt. Ahead of each of these is installed a series of new Bird Dirtecs. Both are to have "Syco" mechanical paper machine drives. The purpose of this drive is to provide the highest paper quality control and to attain the maximum increased production with existing equipment. This is accomplished by an efficient vibration-free, compact, economical method of transmitting power to all sections of the machine. All sections of the drive interlock in positive synchronism and this results in a wide range of accurate speed selection.

The important feature of this selective adjustment for each section is that once the desired speed selection is made the machine automatically locks and maintains that speed. The "Syco" V-belt mechanism cushions shocks and eliminates jerks and backlash, and a take-up arrangement assures controlled tension. The new "Syco" drives save up to 50% of floor space at Newton Falls, in addition to allowing for greater safety, cleanliness and neatness. The drives are equipped with SKF bearings throughout, and Morse rocker-joint silent special roller chains operating under oil bath lubrication. Some engineers have characterized this as "the first major design improvement contributed to paper mill operation by the mechanical power transmission industry cooperating with paper mill men."

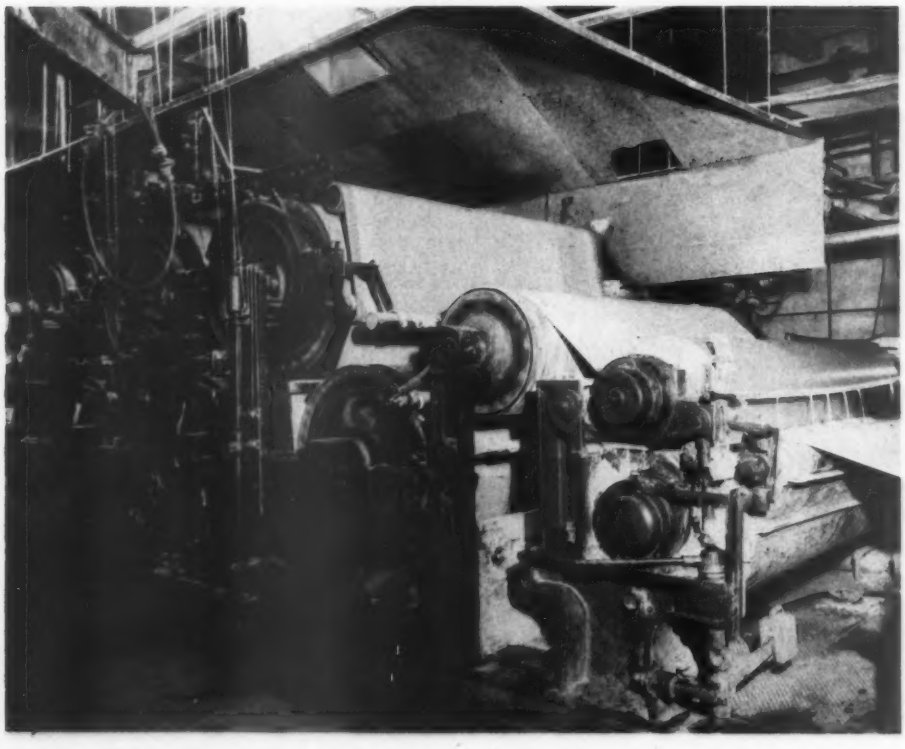
The management expects, on the basis of its studies, to get from the drives a more uniform quality sheet at lower machine cost, as well as increased production from the machines.

Head-boxes and slice on the machine are from Sandy Hill. At the dry ends are Cameron rewinders. An interesting feature in the supercalender department is the development of constant gloss reading on both of the calenders by means of an electronic gloss indicator.

Gloss Indicator Equipment

The request for work to be done on the development of gloss indicator equipment was made by the management to the Glens Falls Laboratory, Inc., Glens Falls, N. Y., who specialize in industrial research and development work. As the first step in this development, an analysis of the gloss problem was made by Kenneth Bowers of the laboratory with the cooperation of the management. It is a well recognized fact that, although the paper has already been coated when it reaches the supercalender stacks, control of pressure and steam on the stacks affect the final gloss of paper and thus give a controllable range of gloss variations. Therefore, an instrument continually indicating the gloss as the paper is processed enables the operator to maintain uniform gloss.

In the process of conducting this analysis, many factors were considered, including the surface characteristics of the paper. The instrument measures only gloss and accomplishes this function as the paper is running through the calender stacks at 800-1000 feet per minute. For example, to indicate gloss only, it was found necessary to eliminate all other factors that would affect accuracy of the instrument, such as color, brightness, voltage variations, changing characteristics of component parts of the instrument, etc. Color effects were eliminated so that a paper of uniform gloss with one-half of it white and the other half black, gives the same reading on the gloss indicator with either the black or white section exposed to the light beam in the instrument. Voltage variations in the power supply were reduced so that there was no effect on the accuracy of the instrument due to this cause. This was accomplished by a unique combination of constant voltage transformers, balanced amplifier circuit and voltage regulated supply,

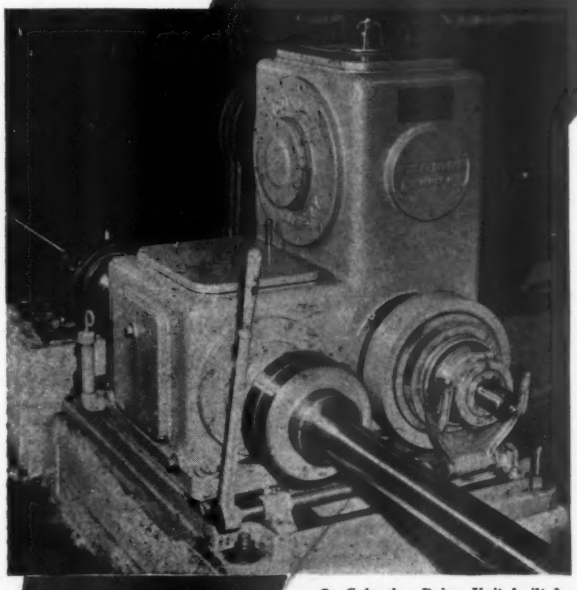


HERE IS WHERE MACHINE COATING TAKES PLACE at Newton Falls Paper Mill, showing the press and dryer section.

SYCO *the modern mechanical*

paper mill drive that's

-EQUIPPED!



● *Calender Drive Unit built by SYCO MFG. CORP. and installed on the No. 1 Machine at the Newton Falls Paper Mill. This compact paper machine drive is 48" wide and 68" long.*

"Equipped with SKF Spherical Roller Bearings" means many important things to the users of this Syco Paper Machine Drive. It means smooth operation. It means self-aligning roller bearings capable of carrying heavy radial and thrust loads without binding. It means increased production on present paper machines at sharply reduced maintenance costs. SKF pioneered the spherical roller bearings so plentiful in this drive and throughout the paper industry. And wherever they are, SKF Bearings bring long life, high performance standards and freedom from friction's costly drag. 6419

SKF INDUSTRIES, INC., PHILA. 32, PA.

and dry cell batteries in critical circuits. By efficient design of the optical system, lamp candlepower of the light source is reduced to such a low value that lamps last several months under continuous operation without blackening or losing brilliance.

The electronic gloss indicator equipment consists of a photo-electric scanning unit containing a low candlepower light source, vacuum photo-electric tube, and a highly efficient optical system designed to focus a beam of light on one of the bottom rolls of the calender stack; a highly sensitive electronic amplifier, with self-contained voltage regulator to supply constant voltage to light source and amplifier; an indicating meter with center scale reference point and an adjustable rheostat in the light source circuit. The two supercalender stacks are each equipped with two gloss indicators to indicate gloss variations on both felt and wire sides of the paper.

The calendering of paper on the Newton Falls stacks equipped with electronic gloss indicators is no different than with visual methods of gloss determination, except that at the beginning of each run of paper of a specified finish, the rheostat control on the indicating meter box is adjusted to bring the needle up to mid-scale. This operation is necessary to compensate for any changes that may have taken place to affect the accuracy of the instrument. As the roll is run through, any changes in average gloss conditions will cause the needle of the meter to read on the high side or low side of the scale indicating the gloss is running high or low, as the case may be. For example, if a wet section in the roll is run through the stack, the operator will immediately detect the swing of the needle to the high gloss side and accordingly will be warned to shut off steam on the stack until the needle comes back to normal position. After the damp section has passed, the needle of the meter will go over on the low side indicating to the operator that his steam valves must be turned on again to restore normal gloss conditions. The gloss indicator is also useful in assisting the operator to rapidly set the steam valves at the proper point to achieve the desired gloss at the beginning of the run, with minimum broke, as well as maintaining the desired gloss throughout the run. If, however, the coated paper fails to come within the controllable range on the supercalender stacks for the desired gloss, it is an indication that the coating

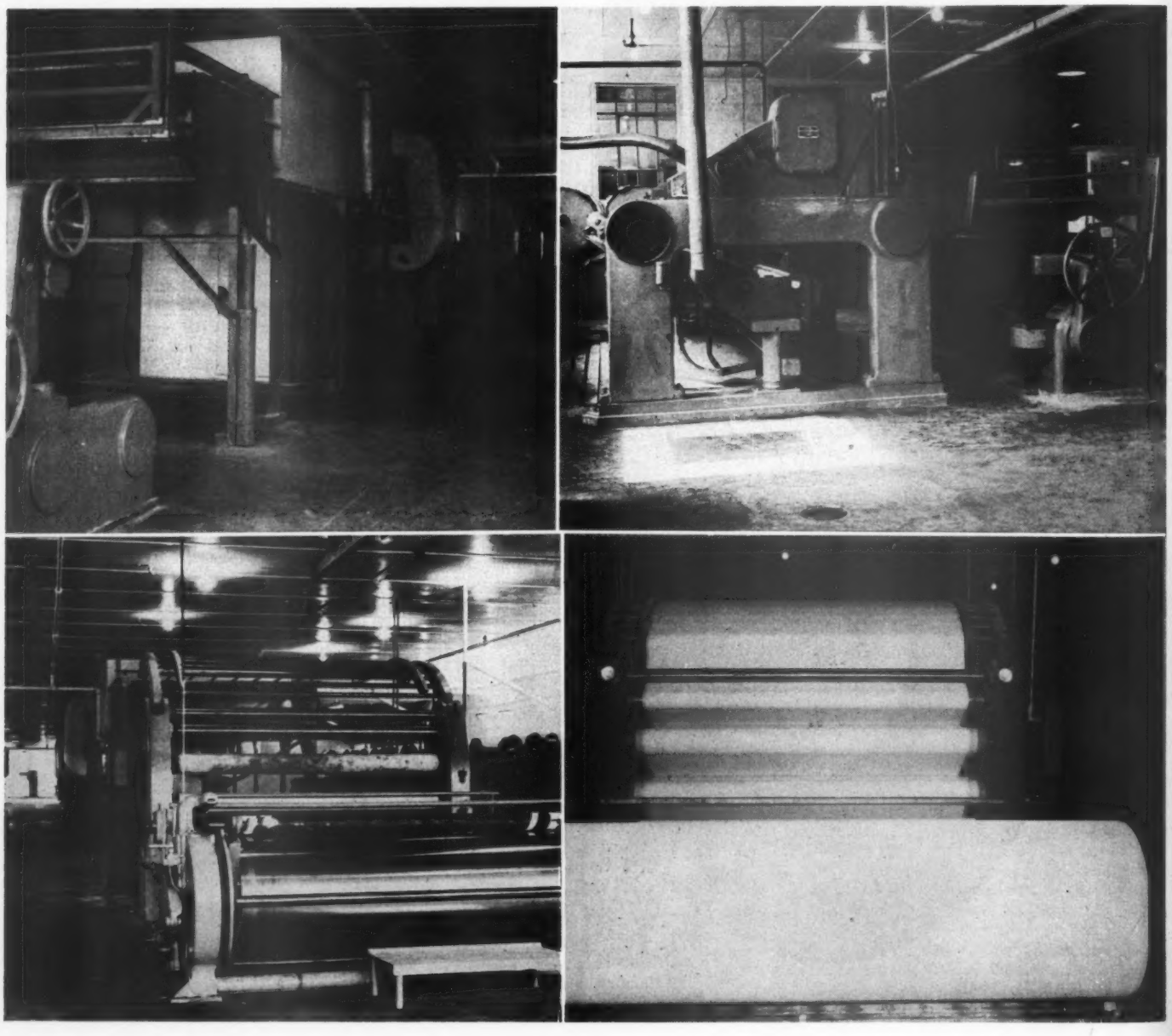
COATING EQUIPMENT AT NEWTON FALLS PAPER CO., NEWTON FALLS, N. Y.

Top left: Entering the end of the Ross Coater Dryer showing panel construction of the main dryer and the four apparatus enclosures.

Top right: End view of the coating end of the Waldron Microjet Coater. From here the web travels over a suction blanket and into the Ross straight pass air dryer which is 150 feet long.

Lower left: The Waldron re-winder at the dry end of the dryer. The equipment beyond is the tension frame.

Lower right: Another view of the re-winder and tension stack on the Waldron Coater with paper on it.



3 reasons why paper production is greater now than ever before!

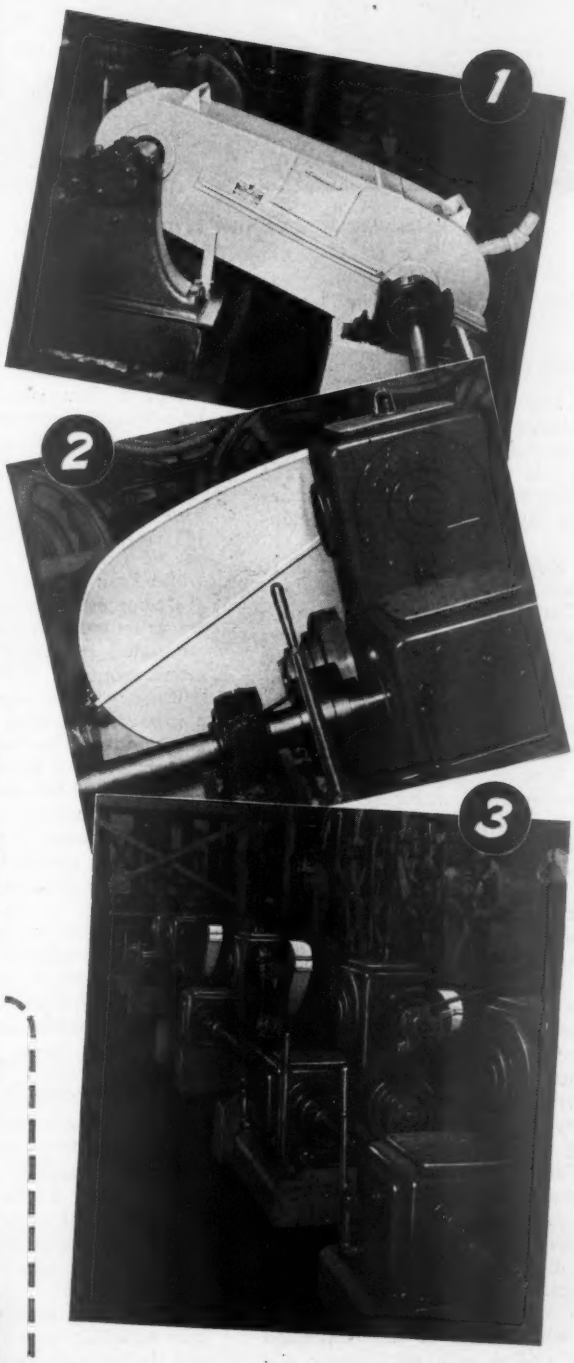
1 **Peak production** and a more uniform quality sheet at lower machine cost is a direct result of Syco paper-machine drives. Here, Morse Silent Chain (in drive case), from turbine to torque shaft, provides an efficient, vibration-free method of transmitting power. Syco drives, Morse Silent Chain equipped, are one good answer to the paper industry's cry for "More paper . . . faster!"

2 **First Dryer Section** of paper machine puts Syco Drive Unit to work with a Morse Silent Chain installation from Unit to indriving shaft to provide the smooth, even operation absolutely essential. Morse Drives furnish this smoothness by reason of *the large number of teeth constantly working*—as contrasted with gearing.

Torque capacities on Silent Chain installations can easily be controlled by increasing the number of sprocket teeth in engagement as desired. With Morse Silent Chain transmitting the power, paper-breaks and their attendant waste are practically eliminated.

3 **The neat, compact** arrangement provided Syco Drive Units by the use of Morse Silent Chain saves up to 50% in valuable floor space . . . adds extra measure of safety. Each Syco unit also encloses a Morse Silent Chain Drive with continuous lubrication and is under selected tension at all times. This Morse Chain Drive gives additional flexibility to unit in speed selection by varying the number of sprocket teeth.

For more complete information on how Morse Roller and Silent Chain, Sprockets, Couplings and Clutches are used *wherever there is industry,* call or write, Dept. 101, Morse Chain Company, Detroit 8, Michigan.



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HERE IS ANOTHER EXTERIOR VIEW OF THE NEWTON FALLS PAPER MILL.

is unsatisfactory and thus assists in quality control of the coating operation.

Waldron Microjet Coaters

The Waldron Microjet coaters are of a type being adopted by *Time* magazine, and one of this pair of coaters was the first of its kind ever installed. The Newton Falls mill was, in fact, the practical testing laboratory for this development.

The two coaters operate at 700 to 1000 ft. per minute, and all drying units are enclosed. Control is complete through Brown instruments. Two electric eyes at the wet end, and two at the dry end keep the tension loops proper at all times.

The Waldron "Microjet" coating line used at this mill consists of the unroll, the Microjet coater, the Ross straight pass dryer, the tension rig, and winder. The unroll receives the incoming bundles. These are positioned under rider rolls which bring the new roll up to speed as the old roll is running out. The new roll, in rotation at the speed of the web leaving the outrunning roll, is then contacted with the web of the outrunning roll, so that the leading end of the new roll is spliced to the outrunning web and the web of the new roll carried on through the Microjet coating line without interruption, and at coating speed.

In the Microjet coating unit the web is taken over a color applying apparatus automaticaly raised and lowered to bring the coating applicator into contact with the web. This apparatus applies the coating in excess. The web then travels over a backing roll of suitable diameter, dependent upon the width of the machine, and, while it is supported on the backing roll, the excess coating is planed off with a Microjet air blade, which is a wide thin high velocity jet of air controlled through an orifice with micrometer adjustment and the air wipes off the excess and returns it to the color pan, leaving a coating of uniform weight on the web.

From the microjet coater the web travels over a suction blanket and into a Ross Straight Pass Air Dryer where the sheet is supported on a cross bar type of conveyer. The air dryer is 150 feet long and divided into four independently controlled temperature zones. The dryer enclosure, mounted about seven feet above the floor on a steel framework, is made up of prefabricated metal panels, having three inches of rockwool insulation. The air is heated by fin type heaters, using steam at 125 lbs. pressure, and is delivered to the distributing header located above the web by means of heavy type, double width fans. Both the heaters and the fans are completely enclosed in the panel type construction. Most all of the air is recirculated in order to obtain maximum steam economy.

The dryer was orginally designed to dry a 6 lb. coat, running at a speed of 600 feet per minute. This has proven to be very conservative, as speeds up to 1,000 ft. per minute have been obtained.

The moisture in the dried paper is controlled by means of a Brown Moistograph instrument, which by means of special relays varies the speed of the conveyor.

In addition to the moisture controller, each individual zone has a Brown Temperature Recorder Controller, which regulates the amount of steam delivered to each zone heater through a throttling type steam control valve.

After the web emerges from the straight pass dryer, it goes to the tension rig; between the dryer and the tension rig the web is controlled with an electric eye for synchronization of the line.

From the tension rig the web passes to an automatic winder of the drum type where rolls of suitable size are formed. The winder is provided with hold-down equipment for satisfactory winding of the roll. As the roll increases in size, it automatically progresses to the take off position, at which time a new core is inserted and the web automatically cut and started on a new core. The fully wound roll, which may be from 40" to 45" in diameter is received on hydraulically controlled lowering arms for removing the finished roll from the surface winder.

The component parts are all electrically driven and equipped with proper controls to effect synchronization. A variable voltage control permits variations in speeds of the web in a ratio of approximately five to one with sufficient reduction for slow threading speeds.

The Microjet coating line applies a coating of the clay casein or clay starch type in which the solids may run as high as 40% with coating on a 25 x 38 (500) ream basis applied in weights of four to twelve pounds. The paper handled at Newton Falls is 102 inches wide.

Attitude of Consumers

It is interesting to note that of the many Newton Falls developments are, like so many, in mills devoted to the production of book paper for magazines if not owned by them outright. The contribution of the magazine industry to the development of the pulp and paper industry has been in contrast to the attitude of newspaper publishers generally. The latter have, with some exceptions, simply regarded the industry as a source of raw material with little thought to the industry's development. In that picture, lower costs were often the result of absorption by the mill rather than by development of new methods and equipment in cooperation between mill and user.

The Newton Falls Paper Mill, Inc., presents quite a different picture, and as a result it is indeed "a mill of tomorrow" in many important aspects.

HARDINGE ABW FILTER PERFORMANCE AT NEWTON FALLS MILL

Date	Suspended Solids			Flow MOD	
	Influent P. P. M.	Effluent P. P. M.	% Removal		
3/6/46	8.4	0.04	99.5	3.25	
3/7/46	9.3	0.04	99.4	3.25	
3/8/46	6.2	0.20	96.8	3.25	
3/9/46	7.8	0.08	99.2	3.25	
3/10/46	4.6	0.08	98.5	3.25	
3/11/46	8.2	not Weighable	100.0	3.25	Power Consumption
3/12/46	10.1	0.09	99.2	3.25	2.06 KW Hrs./Day
3/13/46	9.6	0.09	99.2	3.25	
3/14/46	8.5	not Weighable	100.0	3.25	
Aver.	8.09	0.06	99.1	3.25	

Suspended solids analysis run on composite samples each taken over an 8 hr. period.

Note: No Flocculation or Presedimentation

UNION BAG & PAPER CORPORATION has announced purchase of the plant of Corrugated Containers, Inc., Chicago, and on March 1 will commence shipments of corrugated boxes from the plant to midwest customers. M. Norian, former president of Corrugated Containers, will remain as sales manager for the Chicago district. The plant will be enlarged and new machinery installed.

HOWARD G. BRUSH, Grosse Point, Mich., has been elected controller of Brown Company, New York, and its subsidiary, Brown Corp. Mr. Brush is former vice president and treasurer of Motor Products Corp., Detroit, and has been engaged in accounting and finance for the past 20 years, and was with Ernst and Ernst, and Price, Waterhouse and Co. prior to joining Motor Products in 1942.

Simonds Cuts RIGHT "ON THE LINE"... EVERY TIME

Yes, "when you use Simonds . . . you *stay* in the Highlands of *consistent* cutting efficiency." No face-drag or feather-edge in cutting. No peaks and valleys in output. Every cut with a Simonds Paper Knife is clean and sharp . . . and you get far more cuts between grindings.

Simonds special S-301 Steel has unmatched toughness and edge-holding qualities. And Simonds special manufacturing methods guarantee correct hardness and temper, uniform taper, and just the right job of concave-grinding for proper face clearance. Let Simonds keep *your* knife costs right "on the line". Order S-301 Paper Knives *today*.

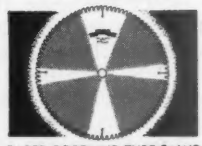
BRANCH OFFICES: 1350 Columbia Road, Boston 27, Mass.; 127 S. Green Street, Chicago 7, Ill.; 416 W. Eighth Street, Los Angeles 14, Calif.; 228 First Street, San Francisco 5, Calif.; 311 S. W. First Ave., Portland 4, Ore.; 31 W. Trent Ave., Spokane 8, Washington. *Canadian Factory:* 505 St. Remi St., Montreal 30, Que.

SIMONDS ALSO MAKES:

STEEL RULE

CIRCULAR CUTTERS

ELECTROTYPE SAWS



PAPER CORE AND TUBE SAWS

SIMONDS S-301 PAPER KNIVES

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Other Divisions of SIMONDS SAW AND STEEL CO. making Quality Products for Industry

SIMONDS — Special Electric Furnace Steels
SIMONDS — Grinding Wheels and Grains
SIMONDS — Simonds Products for Canada

Over 1000 Delegates Attend MONTREAL SESSIONS

L. J. Belnap, chief executive officer of Consolidated Paper Corporation, Montreal, and for many years a leading figure in the industry, is the new chairman of the executive board of the Canadian Pulp and Paper Association.

He succeeds S. L. de Carteret, president of Canadian International Paper Co., having been elected at the annual meeting of the association at the Mount Royal Hotel, January 28, 29 and 30.

Mr. Belnap, who holds the degrees of B. Sc. and Dr. Eng., is a graduate of the faculty of engineering at the University of Nebraska. In addition to being chairman of the Consolidated board, he is director of several of Canada's largest corporations, including the Canadian Pacific Railway and the Bank of Montreal.

Mr. de Carteret, Canadian International Paper Company, the 1947 chairman, and Aubrey Crabtree, Fraser Companies, chairman in 1946, were also elected vice chairmen.

At the meeting, C. R. Whitehead, Consolidated Paper Corporation, and B. R. Cancell, Powell River Company, were elected honorary vice chairmen.

New Executive Board

The other members elected to the Executive Board of the Association were as follows: D. W. Ambridge, Abitibi Power and Paper Co.; George W. Brown, Gair Company Canada, Ltd.; Wentworth Brown, Brown Corp.; George L. Carruthers, Interlake Tissue Mills Co.; Paul E. Cooper, Pacific Mills; Harold Foley, Powell River Co.; P. M. Fox, St. Lawrence Paper Mills Co.; G. Gordon Gale, The E. B. Eddy Co.; R. A. Hayward, KVP Co.; C. H. L. Jones, Price Brothers & Co.; R. P. Kernan, Donnacona Paper Co.; E. M. Little, Anglo-Canadian Pulp and Paper Mills; A. Barnet Maclaren, The James Maclaren Co.; J. R. W. McLernon, Dryden Paper Co.; F. G. Robinson, Riordon Sales Corp.; J. Pierre Rolland, Rolland Paper Co.; Hon. W. Earl Rowe, The Great Lakes Paper Co.; C. H. Sage, Spruce Falls Power and Paper Co.; A. A. Schmon, Ontario Paper Co.; E. Howard Smith, Howard Smith Paper Mills; John Stevens, Jr., Marathon Corp.; R. L. Weldon, Bathurst Power and Paper Co.

More than 1,000 delegates attended the convention, which for the first time met this year independently of the woodlands section, which is scheduled to meet late in March at the same place. But while the January session was primarily for the technical section, representatives of all branches of the industry, including many from the United States and some from Europe, participated.

In his annual report Robert M. Fowler, president of the association, emphasized the importance of the pulp and paper industry in Canada's national economy, especially during the present critical period of American dollar shortage. There were, he pointed out, 113 pulp and paper mills in operation in Canada today, employing nearly 50,000 persons on a full-time basis earning approximately $115,000,000 a year. Production of those mills aggregated more than $700,000,000 annually, of which more than $530,000,000 went into export trade. The industry was the largest buyer of transportation and electrical power in Canada and was among the largest buyers of fuel, farm products and chemicals.

"Tell Your Story"

"The mere size of this industry and its present comparative prosperity may tend to obscure the weakness and postpone correction of the deficiencies, at the very time they should be receiving intense study," declared Mr. Fowler. "Finally, it is urgently necessary that you tell your story.

"This is a time," continued Mr. Fowler, "when many accepted faiths are being called in question. Our institutions are being subjected to intense scrutiny in the upheaval through which the world is passing. If you believe in the system which has made the growth of the industry possible, you must be prepared to stand up and defend it—not in vague generalities but giving chapter and verse to show that you recognize and will correct its defects, and that it is better than any alternative system that is offered."

Mr. Fowler referred with gratification to the cooperation prevailing between the industry and government in Canada, especially in such matters as forest policy, and he pointed out that the industry was pouring back into the forests a large portion of its expanded receipts of recent years to make good the deficiencies of forest policy during the years of war and depression to insure adequate supplies of pulpwood for the future.

L. J. BELNAP, head man at Consolidated Paper Corp. since he was called in during the dismal early 30's to weld it into a winning combination, is the new chairman of the executive board, Canadian Pulp and Paper Assn.

Alluding to Canada's current American dollar shortage and the problems thus involved, Mr. Fowler expressed the hope that Canada's pulp mills would endeavor to produce some of the items not previously manufactured in Canada which were now denied importation because of economic conditions. But the industry's greatest opportunity for improving Canada's dollar position lay in development of exports, and in this field there was tremendous scope. For instance, of Canada's 1947 newsprint production amounting to 4,447,000 tons, an increase of more than 300,000 tons over the previous peak year, most of the increase was shipped to the United States, which received 330,000 tons more in 1947 than in 1946.

Production Climbs

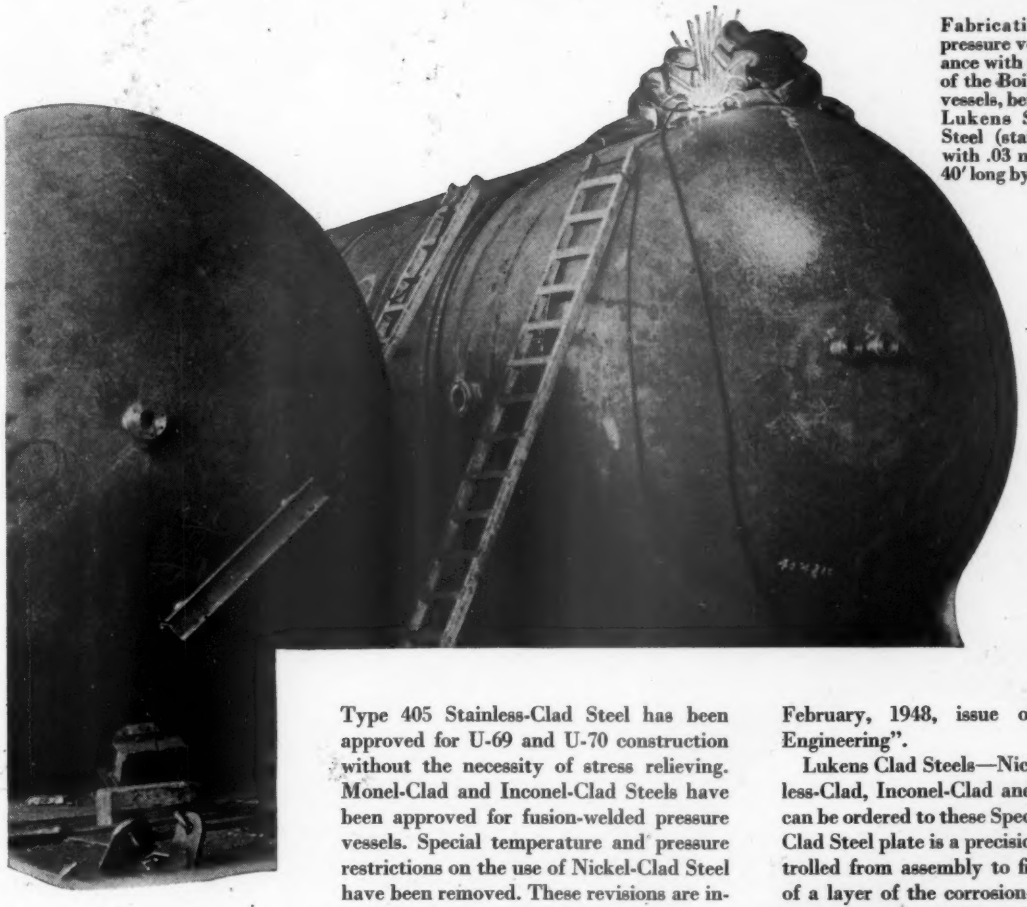
"By increased efficiency and speeds, without the addition of new machines, we were able to add to United States supply of newsprint the equivalent of more than the output of three new newsprint mills similar to that now under construction in Alabama," said Mr. Fowler. "In fact, since October, we have added the equivalent of one such mill's output to the amount we then expected to supply. This, incidentally, is the industry that was accused of conspiring to restrain the supply of newsprint to the United States."

The story in pulps, he said, was equally good. Domestic pulp supplies were materially increased during the past year, and pulp exports, mainly to the United States, increased by 265,000 tons.

"We can expect the expansion of exports of both newsprint and pulps to continue in 1948 and this should aid in increasing the supply of American dollars that Canada so urgently needs," said Mr. Fowler. "However, in other lines of pulp and paper products, the possibilities have been scarcely explored. During 1949 it may be necessary for all other branches of the industry—fine papers, wrapping and kraft papers, specialties, paperboard—to re-examine their whole position, and to re-orient their development and merchandising. This necessity will not spring from any temporary theory of government but from the cold, and permanent, logic of the facts of world trade . . . The only way we can square our accounts and buy from the United States our essential requirements is to expand our exports. We can either swim with the tide or seek to swim against it. Exports must be expanded, and this industry must take its part, not merely by increasing the volume of commodities that are now exported, but by moving into international trade in commodities that are now largely produced for the domestic market. The situa-

ASME Boiler Code Committee Approves

ADDITIONAL TYPES OF CLAD STEEL PLATE COMPLYING WITH ASME CLAD STEEL SPECIFICATIONS FOR FUSION-WELDED PRESSURE VESSELS



Fabricating Clad Steel pressure vessels in accordance with paragraph U-69 of the Boiler Code. These vessels, being built of 15% Lukens Stainless-Clad Steel (stainless type 316 with .03 max. carbon) are 40′ long by 13′ in diameter.

Type 405 Stainless-Clad Steel has been approved for U-69 and U-70 construction without the necessity of stress relieving. Monel-Clad and Inconel-Clad Steels have been approved for fusion-welded pressure vessels. Special temperature and pressure restrictions on the use of Nickel-Clad Steel have been removed. These revisions are included in the new interpretation under Case 896 of the ASME Boiler Code.

Materials covered by this approval are described in ASME (also ASTM) Specifications SA-263 on chromium steel clad plates, SA-264 on chromium-nickel steel clad plates and SA-265 on nickel and nickel-base alloy steel clad plates. Complete details of the Case appear in the February, 1948, issue of "Mechanical Engineering".

Lukens Clad Steels—Nickel-Clad, Stainless-Clad, Inconel-Clad and Monel-Clad—can be ordered to these Specifications. Each Clad Steel plate is a precision product, controlled from assembly to finish, consisting of a layer of the corrosion-resistant metal permanently bonded to a backing plate of ASME specification steel.

Lukens Clad Steels represent the most complete range available to industry. For additional information write for Bulletins 338 and 255, Lukens Steel Company, 444 Lukens Building, Coatesville, Pennsylvania.

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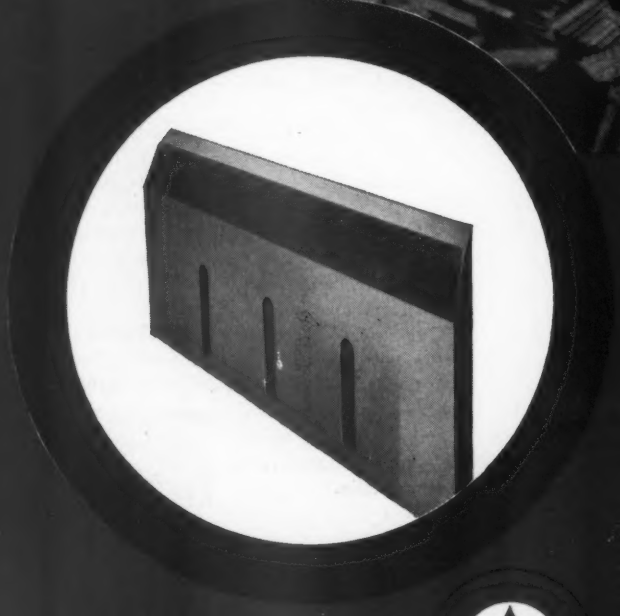

tion may create serious difficulties, but it presents a great challenge."

To meet this challenge it would be necessary to carry on research on a much more extensive scale, said Mr. Fowler, who deplored the fact that, until this year, an industry producing $700,000,000 worth of products annually had contributed only $50,000 a year and now $100,000 a year—one seventieth of one per cent of its turnover—to Pulp and Paper Research Institute, where most of Canada's fundamental research was being done for the industry.

Mr. Fowler referred to the "loose talk" current to the effect that the industry was "rolling in money" and that its profits were exorbitant. Most of this talk, he said, was based on the unfair comparison between the present and pre-war period, when the industry was affected by depression and bankruptcy.

To get the facts, he had asked twelve companies to give him a confidential breakdown of their income dollars in 1947. The companies, producing a wide variety of pulp and paper products, were chosen at random, but they represented about 60% of the total industry production. The group's total income was more than $400,000,000.

Out of each dollar received by these twelve companies in the first ten or eleven months of 1947, 19.2 cents went direct to labor in the mills and offices; 28½ cents went to provide wood, this figure including, of course, woods labor, probably at least two thirds. In other words, about 38 cents of every dollar went to labor. Materials other than wood required for manufacture accounted for 15.5 cents; power and fuel, 7.9 cents. Taxes, not including stumpage and other woods payments, took 12 cents; depreciation of plant and machinery, 4.8 cents. This left 3.9 cents paid out as dividends to shareholders and 6.7 cents held in company funds as a so-called "surplus," to provide working capital and insurance against possible recession—protection for shareholders and employees and, incidentally, for customers and suppliers.

The most significant figure, in Mr. Fowler's view, was the dividend representing 3.9 cents out of the income dolar. As it took more than a year to turn over invested capital, it was safe to say that such a figure actually represented less than 3% on capital invested. Here was the answer to the charge of profiteering and exorbitant prices.

During the convention F. L. Mitchell, manager of the association, issued a statement reporting that the technical section now had nearly 1,000 members. "Our com-

AT CANADIAN MEETING (left to right):

1. J. F. Witty, Pulp Mill Supt., Canada Paper Co., Windsor mills; Henry Douns, Jr., Union Screen Plate Co. of Canada; S. Hall, Plant Manager, Canadian Paper Co.

2. Dr. Ferdinand Kraft, Technical Director, Marathon Paper Mills of Canada; John McKeoun, Sulfite Supt., Donnacona Paper Co.; and R. I. George, Supt. Pulp Mill, West Virginia Pulp and Paper Co.

3. A. E. Fair, Alliance Paper Mills; H. S. Spencer, Manager Beauharnois Howard, Smith Paper Mills; and G. L. Carruthers, Pres., Interlake Tissue Mills

4. H. K. Morris, Purchasing Agt., Consolidated Paper Co.; C. R. Whitehead ,Vice-Pres., Consolidated Paper Co.; and G. M. Minard, Mill Manager, Spruce Falls Power & Paper Co.

5. W. R. Tidmarsh, Woodpulp Machinery Co.; C. A. Newman, Groundwood Supt., Quebec North Shore Paper Co.; J. Divine, Paper Mill Supt., Ontario Paper Co.

6. L. S. Henry, Manager, New Brunswick International Paper Co., Dalhousie; H. A. Paterson, Asst. General Supt., Mersey Paper Co., and Ralph Johnstone, Manager of Manufacturing, The E. B. Eddy Co.

7. Dr. Q. Yean, formerly of China, now with Pulp & Paper Research Institute; R. K. Strapp, Pulp and Paper Research Institute; C. E. Walsh, Canada Paper Co.; and J. S. Hart, Pulp and Paper Research Institute.

FOUR "DOUBLE" SUCTION PRESSES IN NEW* INSULATING BOARD MACHINE

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Cantilever Type Machine . . . Designed . . . Built . . . Installed . . . and Operating . . . all since V-J Day. This is the "First" Insulating Wall Board Machine ever built in which "all the pressing" is done by suction rolls operating in pairs. Note that Downingtown Suction Rolls are used for both TOP and BOTTOM Press and that no plain press rolls are used. . . . Ask us about other paper and board machines we have recently built, and are building. Downingtown Mfg. Co., Downingtown, Pa.

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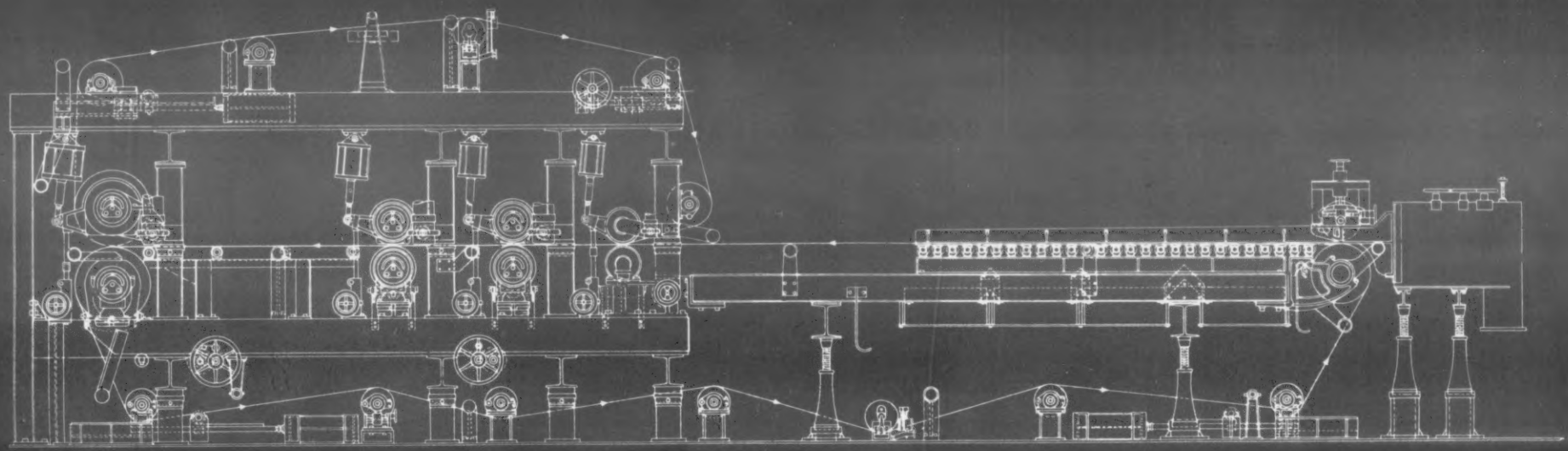


AT CANADIAN MEETING (left to right):

1. R. G. Gillespie, AP&PA; Fred Giffen, Canadian International Paper Co.; F. L. Mitchell, General Manager, CPPA; R. L. Weldon, Pres., Bathurst Power & Paper Co.; and Charles Turner, Building Products, Ltd.

2. Carl Jentz, Gen. Supt., St. Lawrence Paper Co.; Harold Crabtree, Canadian Paper Co.; Alex Phillips, Canadian Paper Co.; Robert M. Fowler, Pres., CPPA, and R. J. Askin, Manager of Mills, Abitibi Power & Paper Co.

3. W. J. St. Clair, Manager, Canadian Lumbermen's Assn.; Paul E. Cooper, Pres., Pacific Mills, Ltd.; John Stevens, Jr., Pres., Marathon Paper Mills of Canada; and J. R. McLernon, Acer-McLernon & Co.

4. C. H. Sage, Pres., Spruce Falls Power & Paper Co., Vice-Pres. Kimberly-Clark Corp.; Gordon Gale, Pres., The E. B. Eddy Co.; A. B. MacLaren, MacLaren Paper Co.; and G. L. Carruthers, Pres., Interlake Tissue Mills.

5. R .W. Ambridge, Pres., Abitibi Power & Paper Co.; W. H. Howard, Wartime Paper Administrator; R. L. Weldon, Pres., Bathurst Paper Co.; Dr. L. T. Stevenson, APPA; and L. J. Belnap, Pres., Consolidated Paper Co., and Pres. CPPA.

mon aim" he said, "is to achieve more complete utilization of our wood. Today, a tree brings to Canadians more than it did in the past."

More Paperboard

A record production of 610,000 tons of paperboard in Canada last year, in comparison with 588,772 tons in 1946, was reported by J. S. Babbitt, of the Gair Co., chairman of the association's board section.

The woodlands section recorded in 1947 an increase of nearly 25% in its membership, according to a report from Wallace A. Delahey of Great Lakes Paper Co., chairman of the section which now numbers 696 members. In the field of silviculture, he said the regeneration of spruce was of particular interest and long-term research was being conducted in that field.

A greater quantity of book and writing papers was manufactured and distributed in Canada during 1947 than in any previous year, reported G. W. Earnshaw, of The E. B. Eddy Co., chairman of the book and writing papers section.

Production of mechanical pulp last year in Canada showed a 7% increase at close to capacity operation, reported Edward J. Thom, Howard Smith Paper Mills, chairman of the mechanical pulp section. Exports, particularly to the United States, attained a level 20% higher than in 1946.

Development of mechanical means to harvest pulpwood so as to achieve greater efficiency and lighten the loggers' load was being actively pursued, according to Vernon Johnson of Canadian International Paper Co., chairman of the logging mechanization section. Experiments of particular interest were staged with a mechanical saw of new design which promised to make the chopper's work easier. Tests were also made with a new tree planting machine which should allow a planting rate of 10,000 trees per day, and of new pulpwood-carrying boats and of wood loading and peeling equipment.

Joe Chenevert of Consolidated Paper Corp. and chairman of the wrapping paper section reported continuing demand for wrapping in Canada, and R. B. Hall of Canada Paper Co., chairman of the specialty paper section, said Canadian mills would aim at offsetting the loss of imported converted paper products now drastically curtailed.

H. M. Lewis, of Sorg Pulp Co., chairman of the executive committee, western branch of the association, had a report telling of the educational work being carried on in British Columbia and referring to a project now under way in Vancouver to provide an arboretum ten acres in extent.

Chemical pulp output in Canada was up about 15% last year, J. S. Robinson, of Canadian International Paper Co., chairman of the pulp section, reported. Exports to the United States were up 20%.

Awards of the "safest mill in Canada" contest were presented to Consolidated's Grand Mere mill and the Crabtree Mills plant of Howard Smith, representing two categories.

Canadian Technical Section
To Meet on West Coast This Year

Evidence of the rapid strides being made in technical improvement of Canada's pulp and paper mills was effectively presented in a wide range of papers read at the annual meeting of the technical section, Canadian Pulp and Paper Association, in the Mount Royal Hotel, Montreal, January 28, 29 and 30.

The section chose as its new chairman F. G. Giffen, who has had a brilliant career in the industry and is at present assistant to the manager of manufacturing, newsprint division of Canadian International Paper Co.

Mr. Giffin is a University of Toronto graduate where he won an honor degree in science. His first job in the industry was with the Iroquois Falls mill of Abitibi Power & Paper Co. After joining Canadian International in 1929 he served at Three Rivers and at Gatineau and Dalhousie.

160 New Members

He succeeds R. J. Askin, manager of mills for Abitibi, who in his report as retiring chairman stated that the section had gained 160 new members in 1947 and now has a membership of 1,000.

It was announced that the next summer meeting of the section will be held at Har-

rison Hot Springs Hotel, near Vancouver, B. C., next September 8, 9 and 10. This is the first time the association has met on the west coast.

Members of the new council of the section are: John Buss, Provincial Paper, Ltd.; Dr. J. Edwards, Price Bros. & Co.; G. A. Franklin, The E. B. Eddy Co.; W. C. R. Jones, Howard Smith Paper Mills, Ltd.; E. G. Kirby, Price & Pierce, Ltd.; C. E. Turner, Building Products, Ltd. Secretary-engineer is Douglas Jones.

One of the notable papers was that of T. A. McElhanney, superintendent of the Forest Products Laboratory, who dealt with the widening uses for wood waste, the term by which he referred to that portion of the tree or log not manufactured into the primary product. Studies carried out throughout Canada, he said, indicated that each year more than 200,000,000 cubic feet of sawmill waste, exclusive of sawdust, were produced.

Complete Utilization

The theoretical objective of integration in the industry, he said, was a procedure which would enable sawmills and plywood plants to utilize the larger logs, while mills making pulp and other related products would use the smaller logs, thinnings, tops and the so-called waste from lumber mills.

Mr. McElhanney described as an interesting trend the increased use of small logs for processing on the west coast. He expressed the opinion that a hydrolysis industry could provide an outlet for large

F. G. GIFFEN, NEW CHAIRMAN of the Technical Section, Canadian Pulp and Paper Association, Assistant to the Manager of Manufacturing, Newsprint Division, Canadian International Paper Co.

quantities of wood waste. The total amount (sawdust, slabs, edgings and trim) produced in Canadian sawmills in 1944 was about 4,500,000 tons of dry wood. If all this waste were hydrolyzed by the Scholler process, about 200,000,000 imperial gallons of ethyl alcohol could be obtained. However, in actual practice much less material would be available as many mills were already utilizing some of their "waste."

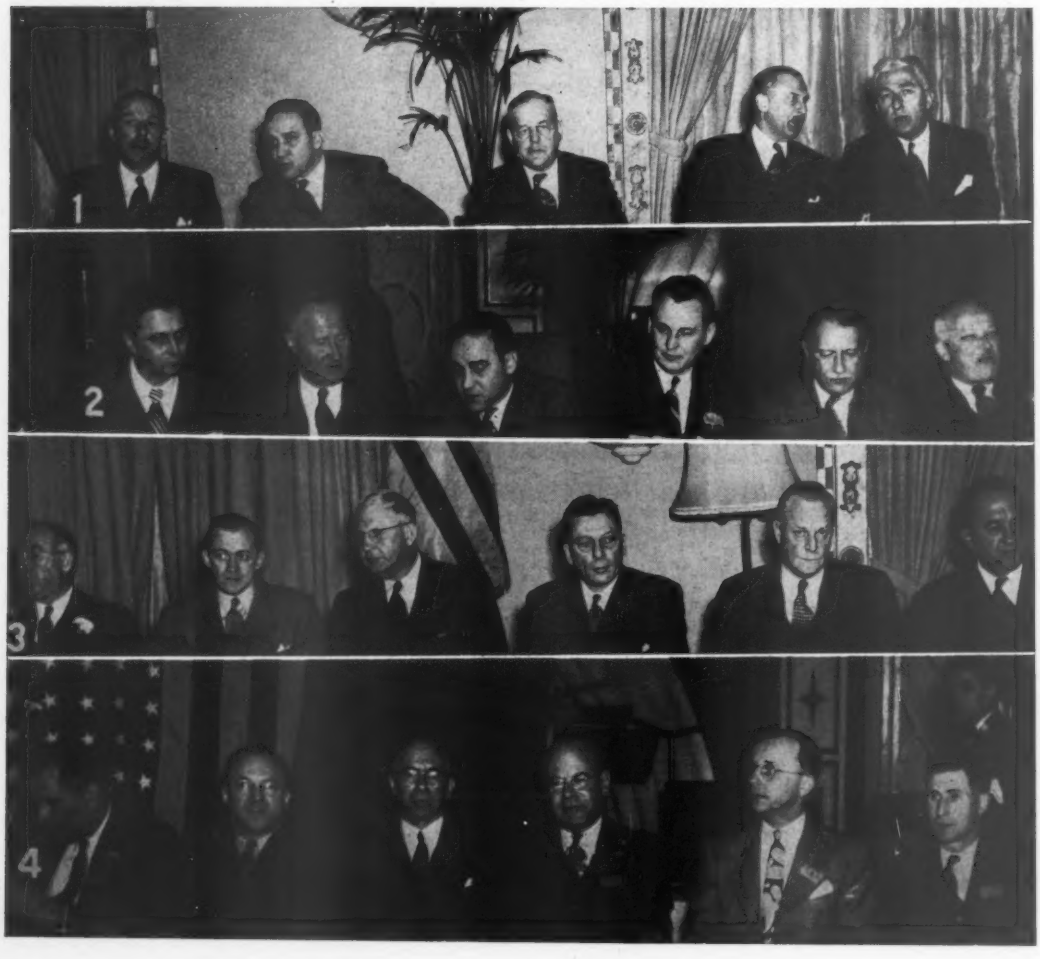
Mr. McElhanney referred to the wood hydrolysis plant recently established in Oregon, operating with a modified Scholler process, and said its prospects of profitable operation were favorable. He suggested that development of a smaller, more economical plant would be more likely to attract potential investors. Waste liquor obtained in sulfite pulping was another source of alcohol, and he calculated that Canada could now produce 40,000,000 gallons of alcohol from all sulfite waste liquor. Ontario Paper Co. at Thorold was currently producing 2,000 gallons daily. Puget Sound Pulp & Timber Co. at Bellingham, 2,500,000 gallons — the cheapest now being produced by any fermentation process in the United States, according to Dr. J. A. Hall of the U. S. Forest Service.

Mr. McElhanney said a good possibility for utilization of lignin might be found in the electrochemical treatment of lignin solutions from waste sulfite liquor. A relatively unexplored field of utilization for wood waste was the microbiological approach.

E. T. Buchanan, assistant chief engineer, Consolidated Paper Corp., emphasized the desirability of establishing a quantitative theoretical relationship between suction rolls and vacuum pumps.

Robert Thomann, manager of Sulzer Bros Ltd., Winterthur, Switzerland, described the use of turbo-blowers for aspirating air from paper machines, pointing to the advantages over methods previously applied, such as with orthodox volumetric pumps. When a multi-stage unit is used, said Mr. Thomann, it can serve as a central aspirating plant for all the suction points of the paper machine, without significant loss of energy.

W. H. de Montmorency, research associate, Pulp and Paper Research Institute of Canada, gave the results of continuing tests with respect to longitudinal grinding of wood, pointing out that, at all grinding pressures, the quality of the pulp pro-



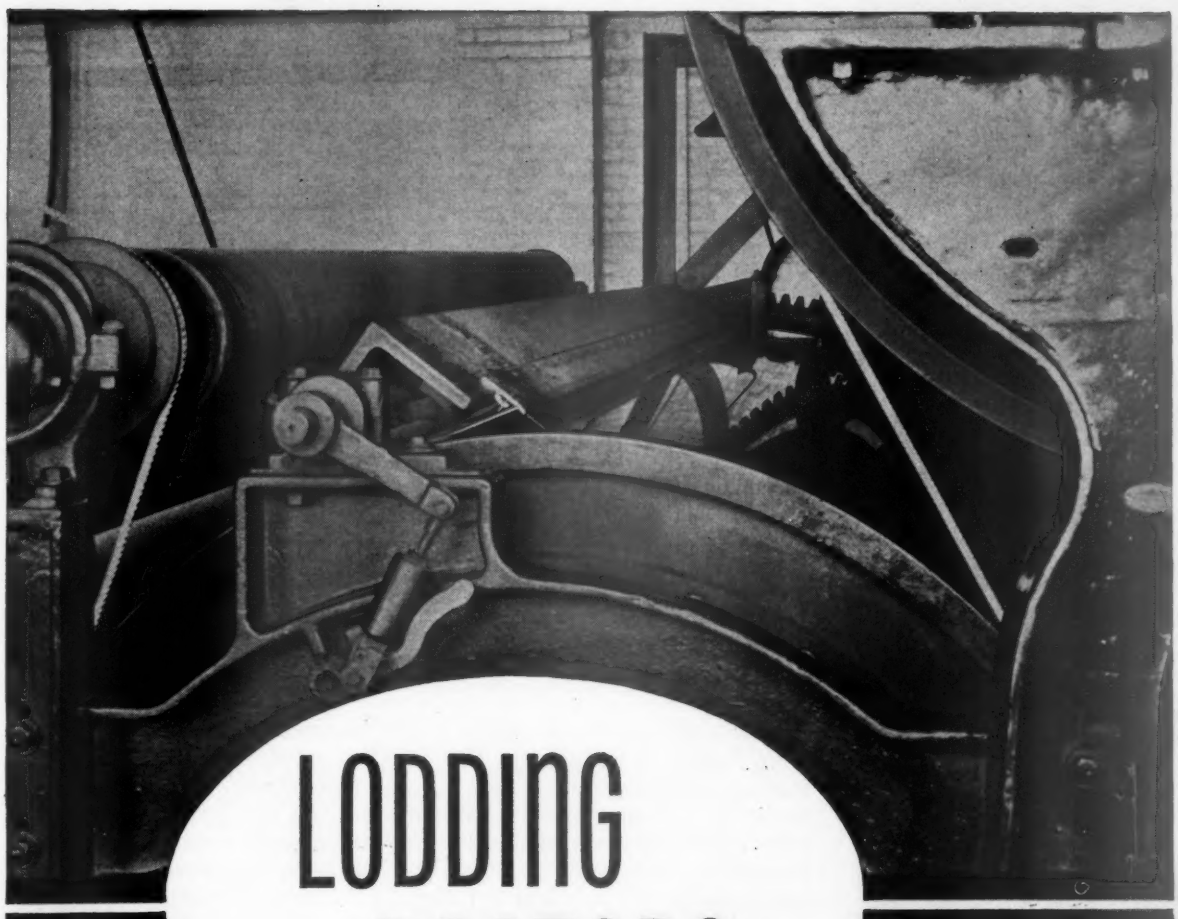
AT CANADIAN MEETING (left to right):

1. F. L. Mitchell, General Manager, CPPA; B. R. Cancell, Vice-Pres., Powell River Co.; J. P. Rolland; A. A. Schmon, Pres., Ontario Paper Co.; and H. S. Foley, Pres., Powell River Co.

2. Douglas Jones, Engineer-Secretary, Technical Sec., CPPA; R. G. Macdonald, TAPPI, B. R. Cancell; Olovi Laurola, Finnish Cellulose Assn.; Dr. Otto Maass, Pulp & Paper Research Institute; Dr. Boyd Campbell, Pulp and Paper Research Institute.

3. S. L. deCarteret, Pres., Canadian International Paper Co.; Robert M. Fowler, Pres., CPPA; H. H. Hanson, Aubrey Crabtree, Pres., Fraser Companies; O. Porter; Elliott M. Little, Pres., Anglo-Canadian Pulp and Paper Co.

4. Charles Turner, Building Products, Ltd.; T. H. Robinson; A. L. Dawe, Consolidated Paper Corp.; John Buss, Provincial Paper Co.; Dr. J. N. McGovern, U. S. Forest Products Laboratory; and Gordon Franklin, The E. B. Eddy Co.



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In this 100th anniversary year as Machine Builders for the Paper Industry, Puseyjones points with pride to outstanding post-war installations. In the spotlight . . . 236" Kraft Machine built for: Union Bag & Paper Corporation, Savannah, Georgia.

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(NEWS ITEM: *A new parchment paper is replacing cloth for home steam pressing jobs.*)

Professional tailors can take a lesson in steam pressing from today's homemakers. The new housewife tears off the required length of a new type of parchment paper, moistens and goes to work. When wet, this new paper becomes transparent, making it easy to turn out a professional-looking pressing job. Pressing paper has pressing qualities of cloth and is nearly as durable. Cheaper than cloth, it can be discarded after being used. We will supply manufacturer's name on request.

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The Puseyjones Organization is now devoting itself completely to the design and construction of Paper-Making Machinery built to new high standards of speed and efficiency, and to the modernization of existing machines. Additional capacity in Metals Fabrication is now available through conversion of facilities formerly devoted to the building of ships.

Puseyjones Engineers will welcome the opportunity to work with you in solving production problems.

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Established 1848. Builders of Paper-Making Machinery
Wilmington 99, Delaware, U. S. A.

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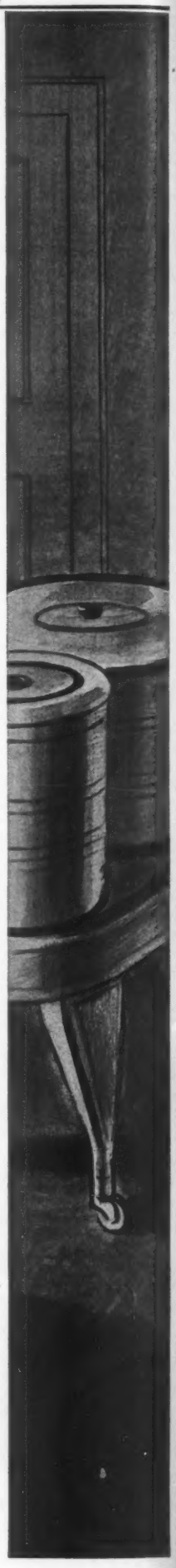


dured by transverse grinding was slightly superior to that of the pulp made by longitudinal grinding.

Problems encountered in organizing an instrument department were discussed by J. W. Graeb, of Imperial Oil, Ltd., who said that too much stress could not be placed on the necessity for creating, and maintaining, a keen, enthusiastic group who look on instrumentation as more than "just a job."

Otto Kress, technical director, Institute of Paper Chemistry, told about by-products from the kraft pulping of pine woods, such as tall oil and turpentine, the former from so-called skimmings from the black liquor and the latter recovered by condensation from relief gases during the actual digestion of the wood.

Alkaline Pulping

Results of a study of alkaline pulping of spruce wood were presented by J. S. Hart and R. K. Strapp, of the Pulp and Paper Research Institute. The variables investigated were the influence of sulfidity and of various active alkali charges at different minimum temperatures and of the various amounts of black liquor in the cooking process. It would appear from the experiments that black liquor taken from a mill system slows up the cooking and that this balances any benefit from increased alkali.

Victor J. Azbe, president of the Azbe Corp., described the lime manufacturing process and pointed out that just to make lime was one thing, while to make good chemical lime cheaply and in the great quantities demanded by industry was still another. "Rather than being simple," said Mr. Azbe, "the process of lime manufacture, in its various ramifications, is so highly complex that it is actually elusive. Only the relatively uninformed imagine themselves to be masters of the subject."

Much interest was shown in the paper on slime control, based on work carried out at the Anglo-Canadian Pulp & Paper Mills by E. L. Neal, assistant general superintendent, and S. F. Jennings, mill chemist.

Slime Control

Closing of the white water system, it was explained was accompanied by a substantial increase in system temperatures. The resulting improved drainage characteristics of the paper machine made increased speeds possible, but due to a rapid deterioration of an already serious slime condition, no increase in production was achieved. Paper that was made contained many slime holes, too, and spots, and the products was generally weaker. Slime control was therefore necessary unless the system were to be re-opened and speed-up plans modified.

By making use of different toxicants and combinations of toxicants, however, together with a determined drive for general system cleaning, a degree of control was finally attained. During the past year's studies emphasis was put on the economies of slime control in order to determine the point in treatment at which additional treatment ceases to show a profit. One finding was that mechanical

BJARNE KLAUSSEN promoted to vice president in charge of production, Hooker Electrochemical Co., Niagara Falls, N. Y. Mr. Klaussen, a graduate of the University of Oslo, joined the Hooker organization in 1916. He has been Works Manager of the Niagara plant since 1940 and a member of the company's board of directors since 1942.

as well as chemical problems were involved, and it was suggested that streamlining stock and white water systems and closing-in filters might offer scope for improvement.

R. M. Bishop, control superintendent of Anglo-Canadian Pulp & Paper Mills, outlined a new method of proportioning slush pulp. A ratio controller, operating in conjunction with two Ratosleeves, was adapted to measure and proportion sulfite and groundwood slush stock before two newsprint machines. Sulfite stock could be manually or automatically controlled; groundwood stock automatically controlled in any desired proportion.

Charles A. Bicking, quality control engineer, Hercules Powder Co., talked on the place of industrial statistics in the manufacture of pulp and paper; Paul Kellogg, president of Stevenson & Kellogg, dealt with cost responsibility — principles and practices, and A. R. Mobbs, manager of the industrial relations department of Abitibi, told about the company's engineering training course at Sault Ste Marie.

How wood refuse is disposed of at the Thunder Bay Paper Co. was described by T. C. Anderson, general superintendent.. The problem was to convert this material into fuel with lowest possible moisture content. The bark from two drums was sluiced to a bull screen which discharged onto a conveyor belt and discharged to a bark press and chuted to a shredder, belt conveyors being used to move the material through most of the stages.

Use of lithcote in the industry was described by William S. Lange, director and sales manager, R. F. Walsh Co., and W. T. Butler of Abitibi outlined the use of the Bauer-McNett fiber classifier. S. G. Mason, of the Pulp and Paper Research Institute, in a paper on "The Rheology of Paper," offered a new approach to the study of paper strength.

In his treatise on the use of liquid sulphur dioxide for calcium bisulfite acid production, E. H. Lougheed, assistant manager of the Fort William division, Abitibi Power & Paper Co., foresaw the possibility of developing in Canada a new million-dollar a year industry as a result of large-scale experiments to replace sulphur with a by-product of nickel manufacture which previously had been without industrial application.

Sulphur dioxide in liquid form, reported Mr. Lougheed, can economically replace sulphur now used in the production of sulfite pulp. Sulphur now has to be imported at the rate of $2,000,000 a year, and while it could not all be replaced by the new product, its elimination on a large scale could assist Canada's national economy at the present time. A sulfite mill at Fort William has been run entirely on liquid sulphur dioxide for several months and satisfactory results have been obtained.

HERE'S HOW TWO COMPANIES
Welcome Plant Visitors

Any visitor to the Nekoosa-Edwards Paper Co. on the Wisconsin River or to Heppenstall Co. in Pittsburgh is going to remember the visit for a long time. And probably with a great deal of real pleasure.

The reason is that these two companies have put into practice a real welcome for any and all visitors to their mills or plants. Each one is handed a folder which is rather novel in some respects. It starts right off with this proposal:

"If the person upon whom you are calling does not receive you within ten minutes after you have been announced, or you are not advised there will be a delay, please ask the receptionist to announce you again. We are glad to see you. Everything will be done to make your visit here pleasant and profitable."

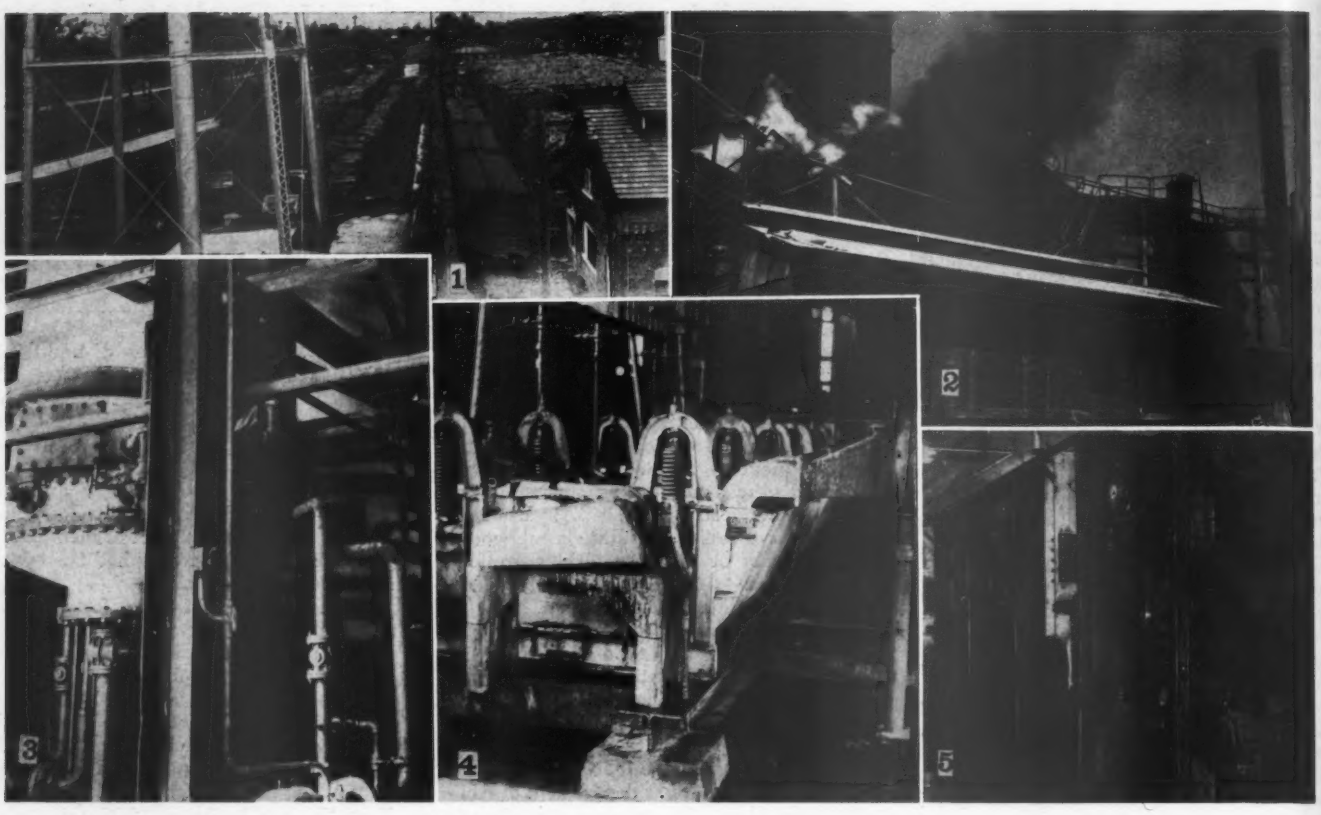
There is a lot of other helpful information in these folders and the ones presented to visitors at Nekoosa-Edwards and at Heppenstall Co. are quite similar in many respects. No doubt there are other companies which have put similar information folders into use, too, but it just happens these were the first of this kind encountered by **PULP & PAPER**. It is certainly a wonderful way to greet visitors and we just thought it was worth a story.

In the case of these two companies, the folders both tell the name of the receptionist—it is written in at Nekoosa-Edwards and it was "Bonnie" the day we were there. "Dick Campbell" was the name on the Heppenstall folder.

In each case, the folder told where a phone could be used while waiting; extended an invitation to smoke; told where rest rooms were; where there were magazines, or a desk to work over papers or where time tables, scratch pads, etc., were available. The paper company's folder mentioned the Paper Inn, across from the office, as a spot to get an "excellent" cup of coffee or lunch. One offered use of a company car if pressed for time to catch a train. Phone numbers of hotels, railroods, airlines, cabs, etc., were listed as well as names of officials of the company—"persons you may wish to see."

Both folders briefly recounted some company history and were attractively printed and could be kept as a souvenir of the visit.

FLORIDA MILL ADDS CAPACITY



RECENT VIEWS OF NEW EQUIPMENT at National Container Corp., Jacksonville, Fla., taken by PULP & PAPER:
1—Plenty of wood is seen here, with Jeffrey conveyor in middle of picture.
2—A full-fledged Dorr causticizing system has been installed, after starting with a conical type and then going to Dorr modified. Third unit in this picture is the white liquor clarifier and the 4th (just added) is a Bird Machine Co. mud thickener.
3—Evaporators section, where General American Process Equipment Div. of Gen. American Transportation Corp. is installing equipment stepping up capacity.
4—Jonsson screens supplied by Bird Machine Co. are used on brown stock ahead of washers.
5—Some of 23 additional dryer rolls supplied by Pusey & Jones for P-J board machine.

Work in stepping up the capacity and efficiency of the National Container Corp.'s Jacksonville, Fla., mill has been progressing satisfactorily so that some parts of the progress had become effective even as far back as mid-summer. The Jacksonville mill — which started with a 60,000-ton capacity in 1937 and subsequently grew up to 90,000 tons annual production, will produce 120,000 tons when the full 1947 program will have been completed.

One of the new features that went into operation during the summer were new Impco submerged re-pulpers installed following Nos. 1, 2, and 3 washers (which are Impco, too). A new drainage system was also installed on two washers. The new repulpers are increasing the efficiency of the washers by breaking up the pulp sheet, which makes for better results after disintegrating.

An earlier feature, which attracted attention during the Superintendents' division meeting last fall are the Jonsson screens, furnished by Bird Machine Co. (South Walpole, Mass.) which have proven very effective on brown stock as placed by National Container ahead of the washers. These screens have demonstrated savings in chemicals in black liquor by sending knots and slivers back before washing. A Link Belt installation delivers the screened out pieces — and with fibre well vibrated clear — to the Jeffrey conveyor that carries chips to the digester.

The installation of a fifth Blaw-Knox digester, of course, automatically increases the capacity by 25% without counting any gains from know-how inching upward. The addition of this unit at the end of the existing digester house called for extension of the building as well as serving chip equipment. An elevator was installed as part of this building addition.

National Container already had seven vacuum evaporators, and to this battery three effects are being added by General American Equipment Division of Gen. American Transportation Corp. This will provide two (2) fine body quintuple effect evaporators.

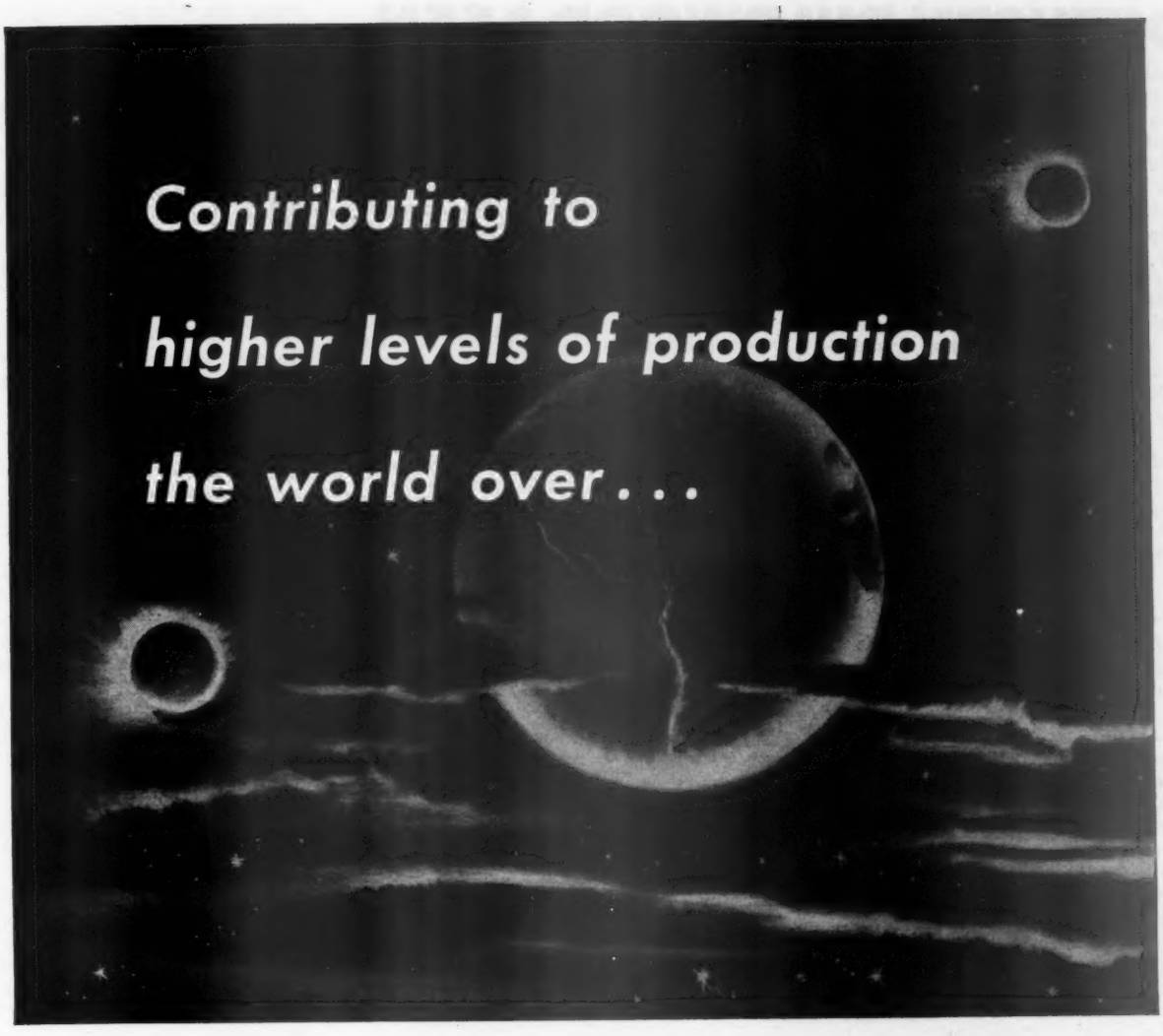
When the Jacksonville mill started in 1937 it was equipped with a cone type causticizing installation. Subsequently this original equipment was altered into a modified Dorr system. The 1947 improvement program has resulted in completion of this revamping process so that the mill has emerged with a full Dorr system. The addition of new units and accompanying tray equipment doubles the capacity of this installation.

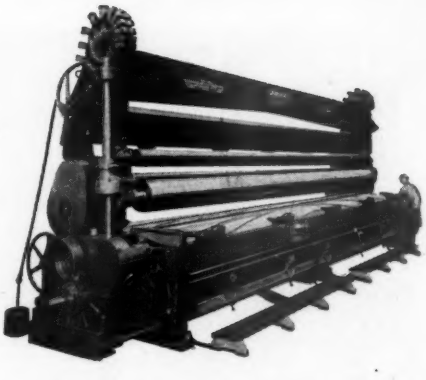
All of these improvements mean a greater amount of pulp to reach the Pusey & Jones 228-inch kraft liner board machine. This added capacity will be dealt with by 23 additional dryer rolls added on the lower story which will make it possible to run 42-lb. board as fast as the machine had been handling nine-point board. These dryer rolls, of course, are Pusey & Jones.

As announced in late 1946, the improvement program cost was placed at $1,225,000. In addition to the interesting items mentioned, there is also a new 5000 KW General Electric generator; a 300-foot lime kiln; new tank storage, and a Zeolite water treatment installation for boiler feed water furnished by the Cochrane Co.

Help Community

As a contribution to the solution of the water supply problem at Harriman, Tenn., The Mead Corp., through J. R. Buchanan, local mill manager, is furnishing two barges to bring water to the community from the Clinch River. The Harriman water supply problem furnished some interesting problems.





CAMACHINE 20, the largest of the mill type Camachines, is a popular pacemaker in high speed paper mill operation. Camachine 20 produces firm, uniformly wound rolls of newsprint, kraft or book paper at speeds up to 4000 fpm, handling webs from 180" to 310".

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Annual Meeting

SOUTHERN PULPWOOD ASSN.

"People are ready to listen," said Jesse J. Armstrong, manager of woodlands department, Union Bag Corp., in opening, as president, the Southern Pulpwood Conservation Association annual meeting in Atlanta on January 28. He went on to say that "results could be shown" and in these two statements is summarized the trend in forestry management in the South recently.

The Association's adherents started talking of the forestry program for the South eleven years ago; formed the organization nine years ago. Mr. Armstrong referred to "outside interests" always eager to jump in and run southern forestry, but warmly expressed "confidence" in our own abilities.

The rising tide of southern pulpwood consumption was depicted by James W. Cruikshank, Forest Economics chief for Southeastern (U.S.) Forest Experiment Station. Consumption of the mills in 1946, he said, amounted to 8.8 million cords annually which mill expansions and new mills will boost to 11 million cords in 1950. Mill owned forest lands in the South, as of current times, was placed at eight million acres. Additional new mills are still talked of.

In discussing the current southern forest resources situation. Mr. Cruikshank drew sharp attention to the declining stands of saw timber as a factor that will accentuate portable mill competition with pulp mills for the six and eight-inch diameter trees. To meet this situation, he suggests, first of all, better forestry management, characterized as relatively slow in measured results.

To tide over the immediate gap ahead, he recommended more intensive (fire) protection, greater effort in salvaging for use timber dying from various causes, possibly to yield 1.5 million cords; conversion of "cull" trees whether pine or hardwoods into either pulpwood or in substitution of the 30 million cord annual fuel wood drain, of which 10% would be three million cords. His third item, utilization of logging and manufacturing waste was listed as amounting to 2.6 million cords only if 10% were utilized. A target to shoot at on these combined savings was high.

Mr. Cruikshank saw, as a result of a real program, an annual yield, of 150 million cords in 50 years' time.

Following later in the program, Russ Reynolds, who directs the (U.S.) Crossett (Ark.) Experimental Station, talked seriously to the woodlands management group about intensification of forest growth on mill owned lands close to the plant. He quoted from the records all the multitudinous phases of management tried in the famous Crossett forest, all of which is available for observation.

For the benefit of those who subscribe to the adage that "Far away forests are green" he provided a summarization as follows:

"Summing up, just remember that your expenses of management per acre per year are the same regardless of the amount of wood produced. The wood you will get per acre year is dependent upon the amount of growing stock of desirable species you have and how you handle it. At the present time most southern stands are badly understocked, they are too thick in some spots and far too thin in others. They contain wolf and slow growing trees and much low grade hardwood that is cutting down growth per acre by nearly one-half. We have a large amount of open and non-restocking forest land close in to the mills that needs to be planted and at the same time we are paying a $3 to $5 per cord freight charge on wood from 200 to 300 miles away. In general we are not getting anywhere near our money's worth from our stands.

Completing the program, Henry J. Malsberger, Association general manager, provided an excellent summary of a fruitful year. In a discussion of the Association's conservation program, the most encouraging reports were given by: Earl Porter, International Paper Co.; L. J. Risch, Jr., Gaylord Container Corp.; B. E. Allen, Union Bag and Paper Corp., and Francis J. Cook, an Association district forester.

A. G. McArthur, manager, Timberlands Division, Rayonier Incorporated, Fernandina, Fla., presided as toastmaster at the annual dinner.

It's a Small World— Ask DeZurik and McCormick

David DeZurik, vice president and general manager of the DeZurik Shower Co., Sartell, Minn., was a long way from home when he sat down in an office of the Crown-Zellerbach newsprint mill at Port Angeles, Wash.—the farthest west mill in the United States—to talk about pulp consistency regulation with some executives of that mill.

Before he got under way, Paper Mill Supt. Charles Ackley said: "Wait a minute, let's call in the groundwood superintendent to hear this, too."

E. Clair McCormick came in and, as he was looking over some of Mr. DeZurik's papers, he noted the address "Sartell, Minn."

"Why I went to grade school in Sartell back in 1917," said Mr. McCormick. There followed some lively reminiscing by both Mr. DeZurik and Mr. McCormick and the upshot was—to the amazement of them both—that they had BOTH attended that school in Sartell in '17 and that Mr. McCormick's father was their teacher.

MEN IN ATTENDANCE AT SOUTHERN PULPWOOD CONSERVATION ASSN. MEETING, Atlanta, Ga.

Top row (l to r): R. F. WESTON, Hollingsworth & Whitney, Mobile, elected 1948 Pres., J. E. McGAFFERY, Int'l. Paper Co., Georgetown, S. C., elected Vice-Pres. for 1948; J. H. KEENER, Champion Paper & Fibre Co., Canton, N. C., elected 1948 Exec. Committeeman; LOUIS B. STALEY, National Container Corp.; VERTREES YOUNG, Exec. Vice-Pres., Gaylord Container Corp., member 1948 Exec. Committee; K. S. TROWBRIDGE, North Carolina Pulp Co., 1948 Assn. Director. HARRY A. LOWTHER, Chicago, forest equipment mfgr.; H. C. CARRUTH, Georgia state forester; GEORGE MOSLEY, So. Rep. Harry A. Lowther Co.

Bottom row (l to r): EARL PORTER, Woodlands Mgr., Southern Kraft Div. Int'l. Paper Co., elected Exec. Committeeman; JESSE J. ARMSTRONG, Woodlands Gen. Mgr., Union Bag & Paper Co., Past Pres. of Assn. and Exec. Committeeman for 1948; HENRY MALSBERGER, Assn. forester-general manager; J. H. JOHNSON, Chespeake Corp. of Va., a 1948 Director; A. G. McARTHUR, Rayonier Inc., Fernandina, Fla., a 1948 Director; L. J. RISCH, JR., Gaylord Container Corp.; EARL NEWSON, Macon Kraft Corp., in study of "thinning" problem at pulpwood meeting.

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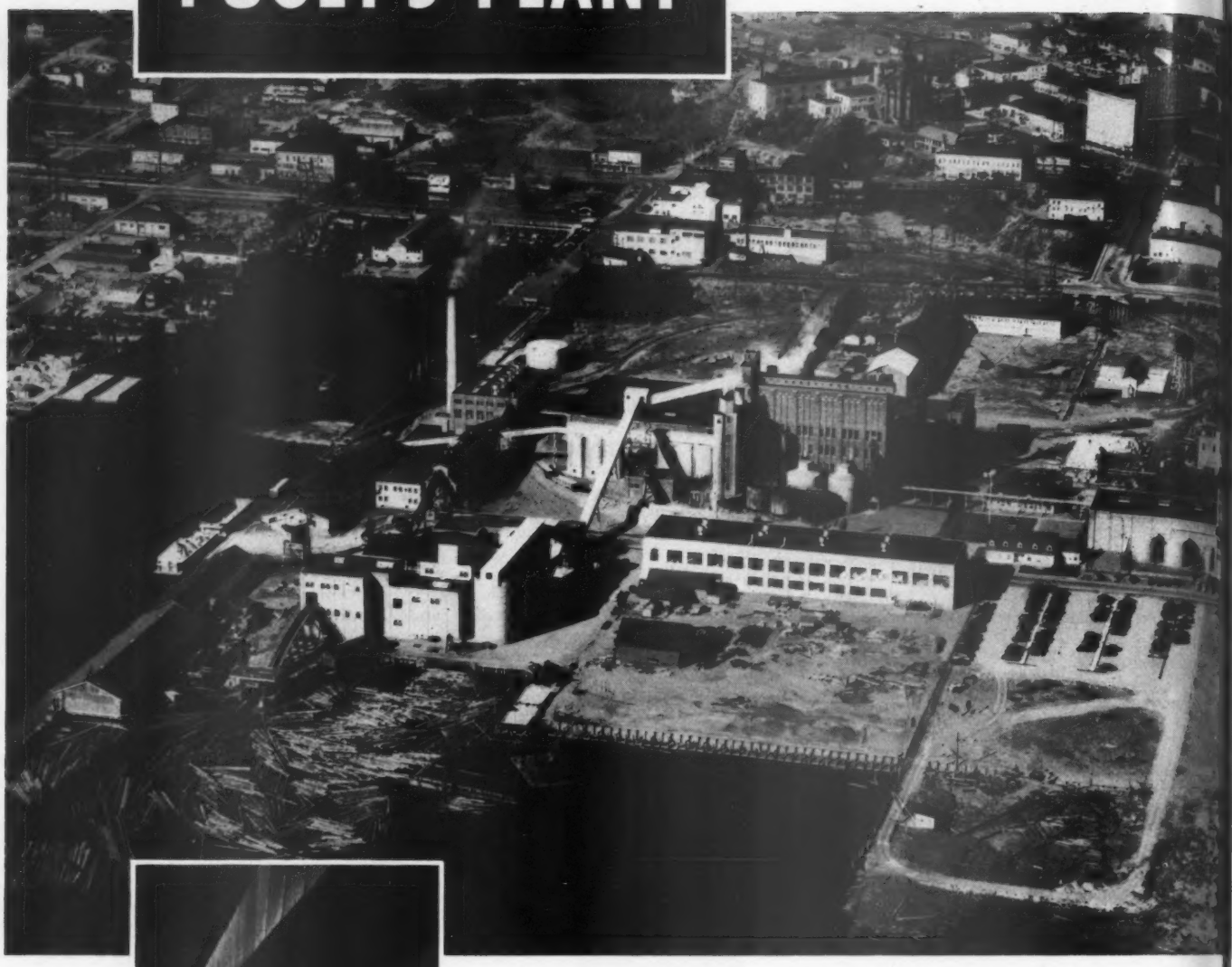

AERIAL VIEW OF THE PUGET SOUND PULP & TIMBER COMPANY'S PLANT IN BELLINGHAM, WASHINGTON. MODERN BUILDINGS ARE GROUPED FOR STREAMLINED PRODUCTION AND READY ACCESS TO THE LOG POND AND ADJOINING DOCKS FOR WATER SHIPMENT.

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Vancouver Island Pulp Mill
To Be Built by MacMillan

Confirming the prediction in **PULP & PAPER** recently, that British Columbia would see during the next few months the greatest expansion in the Canadian industry, announcement has been made that H. R. MacMillan Export Co. will proceed at once with the building of a $12,000,000 sulfate pulp mill and that another 200 or 250-ton pulp mill will be built in the Cariboo district, near Quesnel, by as yet undisclosed interests.

There are also reports that a pulp mill may soon be announced for the Arrow Lakes district.

With two pulp and paper mills for the Duncan Bay area on Vancouver Island, announced in **PULP & PAPER** last month by Canadian Western Lumber Co. and Celanese Corporation of America preparing to make an early announcement of the contract for building its high grade sulfite mill near Prince Rupert by the subsidiary Columbia Cellulose Co., British Columbia is destined to become one of the world's most active fields for pulp and paper exansion.

In addition to the foregoing projects, Bloedel, Stewart & Welch, Ltd., recently got its new 165-ton unbleached kraft mill at Port Alberni into production; Powell River Co. expects to have its new newsprint machine in operation during the coming summer; Pacific Mills, Ltd., B. C. Pulp & Paper Co., Sorg Pulp Co., Westminister Paper Co. and Sidney Roofing & Paper Co. are all carrying out improvements that will increase various phases of their production.

As in the case of the proposed Canadian Western mills, the MacMillan pulp mill will utilize material from the organization's various lumber and plywood manufacturing plants now going to lower value uses such as slabs, sawdust, chips, and small logs.

Location of the MacMillan mill, for which Howard Simons has been engaged to design the plans, will be somewhere on the east coast of Vancouver Island, possibly in the Cowichan district or near the company's big Victoria Lumber Co. at Chemainus. If unbleached sulfate is produced, capacity will be 250; if bleached, 200 tons. Power will be provided by the B. C. Power Commission's new plant at Campbell River, which is now producing energy for the Bloedel mill at Port Alberni, which was also designed by Mr. Simons.

Some of the funds required for construction will be from the substantial MacMillan profit of $7,120,000 on 1947 operations. There will be no public financing.

Announcement of the pulp mill undertaking was made by Mr. MacMillan at the company's annual meeting in Vancouver January 28, when he said, "The company has a social obligation to maintain a high rate of output, operate efficiently, extract the highest possible percentage of commercially valuable products from an acre of forest land harvested, recognize with more than words valuable contributions made by its employees, and generally discharge its duty under what might be described as 'good industrial citizenship'."

Alberta Mill Proposed

If a proposal being discussed in Montreal financial circles is carried out, Alberta will have a $14 million pulp and paper mill.

Present proposal is for an integrated pulp, newsprint and wrapping paper mill, according to R. O. Sweezy, Montreal financier.

Location has not yet been specified but mill backers have expressed the opinion that Alberta is ideally situated to serve western United States newsprint markets and pulpwood supplies would come from the Alberta foothills, possibly from the area northwest of Edmonton.

Initial production would be on a comparatively modest basis as present available power is sufficient to operate only one newsprint machine, which would mean production of approximately 200 tons a day, or 60,000 tons annually.

Mill construction, however, would leave room for expansion, to an ultimate production of 600 tons a day.

Although natural gas has been discussed as a possible source of power, mill backers say that no expenditure will be required for power development, at least in the initial stages.

C. H. KREIENBAUM, president of Simpson Logging Co., which includes a new Wood Fiber Division, has moved his executive office from Shelton, Wash., to the White-Henry-Stuart Building in Seattle. Division management of Shelton and McCleary plants will continue to occupy offices in Shelton. A new office building is to be erected in Shelton this year.

Quesnel Pulp-Plywood Mill

Plans for a pulp mill and a plywood plant at Quesnel—and development of a hydro-electric project to supply them with power—were announced from Williams Lake late in January by Byron I. Johnson, premier of British Columbia.

Premier Johnson gave no identity of interests behind the proposed pulp mill which he said would have a daily capacity of 200 tons, but said that the plywood plant was being considered by Western Plywood Co., Ltd., which now operates a plant at Vancouver, B. C.

By press-time **PULP & PAPER** had learned nothing further about the pulp mill proposal, but Western Plywood Co. had announced that it is definitely establishing a new plywood plant at Quesnel which it expects to be in operation by the summer of 1949.

Estimated cost of the plywood plant is $250,000 and a site already has been obtained.

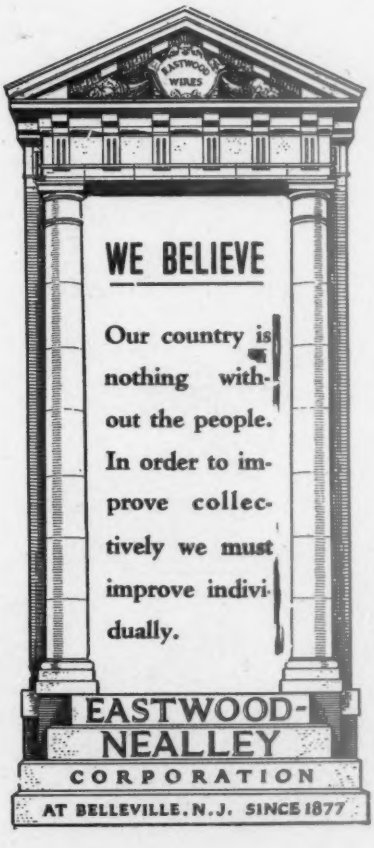
While it has been surmised that interests behind the two proposals may have some relation, John Bene, president of Western Plywood Co. told **PULP & PAPER** that his company at the present is not interested in a pulp project in Quesnel.

Western Plywood Co., Ltd., was founded in 1944 by a group of Vancouver business men. Using local capital, the company helped pioneer a new type of plywood, which combined the coniferous veneers with British Columbia western birch and northern poplar, or cottonwood.

Since 1945 the firm has been producing a specialty panel for industrial users in Canada, the United States, the United Kingdom and other overseas markets.

The firm now plans to locate its new plant in the midst of timber stands at Quesnel in the Cariboo. It will mean the establishment of a new basic industry in this district and the employment of many workers.

Since formation of the company, Mr. Bene has been president and managing director. Active with him on the directorate is Dr. Leslie L. Shaffer, vice-president, and E. E. "Mike" Gregg, vice-president in charge of log supply. Other directors are: P. T. Rogers, Forest Rogers and Alan McGregor Robertson, president and vice-presidents, respectively, of the British Columbia Sugar Refining Co., Ltd.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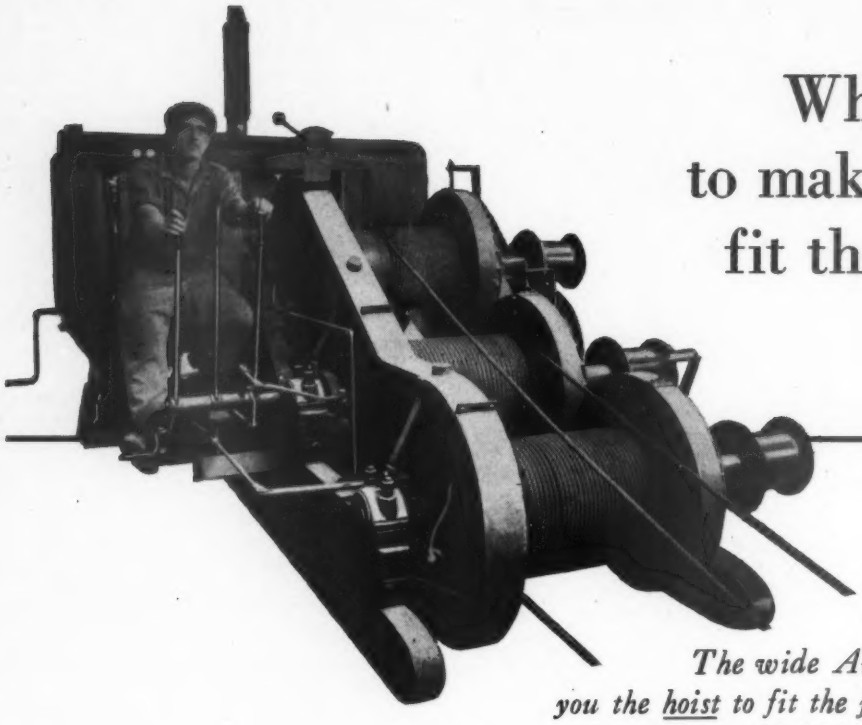

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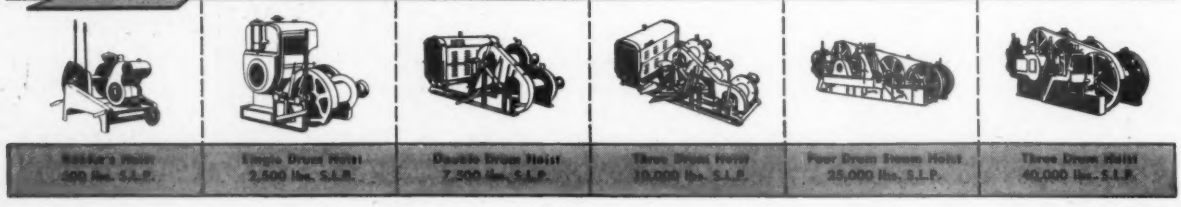


"The most effective way to encourage the growing of trees is to develop profitable reasons for cutting them down." — (A. G. T. Moore, Southern Pine Assn. executive, in 1938).

Detailed Description of One of Most Modern

WOODS OPERATIONS IN SOUTH

While famed as owner of the oldest commercial pine plantation South, Gaylord Container Corp. has an expanded forest stand of substantial proportions, the management of which embraces the latest modern equipment and practices.

The company, by its own declaration, is not just "raising pulpwood" but shepherding a growing forest, the yield from which will partially sustain other local forest products industries. In this far-sighted program, the company sees itself buying pulpwood from the public and selling poles, piling and sawtimber to other wood-using plants.

The Gaylord Container Corp. owns approximately 300,000 acres of forest land of which 120,000 acres are contiguous in Washington and St. Tammany parishes (counties) of Louisiana; 120,000 acres in Livingston parish, Louisiana; 45,000 acres in Mississippi, and the balance in lesser-sized tract holdings in East Feliciana, St. Helena and Tangipohoa parishes, Louisiana.

All of these lands are within a 100-mile radius of the mill, at Bogalusa in Washington parish.

Included in the total is 51,000 acres of hand-planted, artificially reforested land in Washington parish, some part of which is credited as constituting the first commercial pine plantation forest in the South.

Gaylord's chief forester is P. M. Garrison, a graduate forester (Iowa State) who has been with the company since 1925. Under him are three district foresters: J. H. Foil (Louisiana State Univ.), who supervises the Washington-St. Tammany district, from Bogalusa; R. J. Freshwater (LSU), who supervises the Livingston-St. Helena district from Denham Springs, with equipment stationed at Walker; and Wilbur H. Henderson (LSU), who supervises the Mississippi lands from Morgantown, Miss.

All of the company lands are under intensive fire protection in cooperation with the Louisiana Forestry Commission. Generally, this fire protection system is a skeleton resident warden system supplemented with mobile crews, fire fighting jeeps, two-way radio communication, fire lookout towers, and aerial fire patrol. Pick-up trucks used by company foremen are radio equipped.

P. M. GARRISON, Woodlands Mgr. and Chief Forester, Gaylord Container Corp., Bogalusa, La.

The aerial patrol is furnished by a company-owned plane — a Fairchild single motor, two-way radio equipped observation plane. It flies from the Bogalusa municipal airport. The fire control is more intensified in the Washington-St. Tammany district because of greater hazard in comparison with the wetter soil condition, and other favorable factors, experienced in Livingston. The district in which the mill is located is predominantly a slash-long leaf pine area.

The company's program is expanding more and more into the mechanical field in fire fighting. An item added this year is a jeep equipped with a hydraulically operated disc plow. The company uses a number of jeeps in the woods; finds them practical.

Aerial Mapping

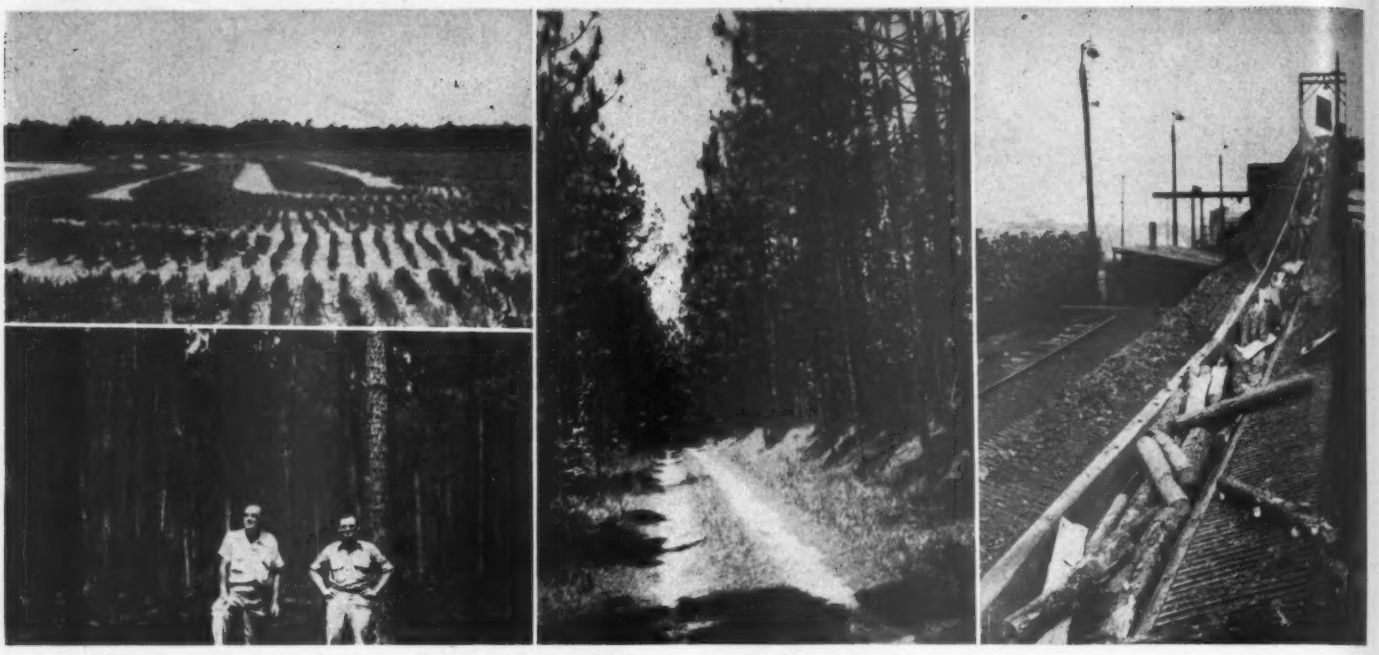
In developing its management plans for its forest areas, Gaylord acquired and is operating a complete aerial mapping set-up, using a North American AT-6 photographic plane, a Fairchild K-17 aerial camera and the necessary laboratory equipment for the developing and printing of the pictures. Facilities are also set up for the most modern interpretation of these aerial photographs.

The aerial mapping discloses the location of roads, streams and other natural features, and, as well, defines the forest type (species) lines by color variation. Interpretation of the photographs leads to density and estimated yield through use of tables. Use of the stereoscope brings out land elevations so that principal access roads may be located on ridges according to timber density. Instead of building bridges and taking pulpwood through wet spots, the wood supply department reaches down into them. A most important feature of this is that pulpwood operations can be planned for wet or dry weather seasons.

Photographs are taken from 8000 feet yielding a scale of 4 inches to the mile, with shots centered vertivalled on each section.

The mapping work is not restricted to

UNITED STATES POSTOFFICE, CHIPOLA, LA., established in 1882 on 1200-acre cotton plantation. Today the postoffice holds forth on side porch of this home, credited with being the smallest postoffice in the oldest postoffice building in the U. S. But the scene has changed. Instead of acres of blooming white cotton, it is surrounded by stands of profitable southern pine for perpetual feeding of pulpwood to the Gaylord Container Corporation's mill at Bogalusa, La. (note stands of trees at right). Here Mrs. Minnie Tycer, Postmistress and owner by inheritance, in 1947 issued $4,000 in money orders to woods workers. Here is epitomized one phase of the changing picture in southern agriculture.



VIEWS IN WOODS OPERATION OF GAYLORD CONTAINER CORP., BOGALUSA, LA.

Top left: This pine nursery will produce from 3 to 4 million seedlings for Gaylord's use. The Co. in a ten-year planting program, will fill up all non-producing spots in their forest acres.

Lower left: M. P. GARRISON (left) Chief Forester, and J. H. FOIL (right) Dist. Forester, stand at edge of slash pine plantation planted in 1925; thinned by 7 cords per acre (25% of stems) in 1936; thinned again 2 cords per acre (10% of stem) in 1941; and inventory of 32 cords as of Jan. 1, 1945.

Center: Woods trail through 12,000 acres of fenced naturally reseeded long-leaf pine (1921-22). The original stand cutting here just timed ahead of a big seed crop. Thinnings on this land ranged from ½ to 3 cords per acre. Stand as of Jan. 1, 1945, 7.5 cords per acre. Best 40 acres in area 13.7 cords per acre.

Right: Here the pulpwood rack cars are alongside the pulpwood conveyor. A good push, and Link-Belt equipment takes it to the barker and it's really out of the woods by that time.

company lands, but embraces entire areas in which they are located. Hence, if land becomes available for acquisition, the department can check the location, go to the file for the photograph, and readily determine whether its purchase would be desirable.

Planting Program for 5 Years

The company has a program calling for setting out of 10,000,000 seedlings annually during the next five years to fill up the open spaces. These include lands cut over and not re-seeding naturally and those that have severe fire burns with insufficient stock left to indicate natural restocking would be improbable.

If areas are already stocked to 50% they are considered "out of the picture" for plantation seedling work. About 10% of the company lands need to be stocked with seedlings. The department plants areas as small as an acre or acre and a half. Two Lowther tree planters supplemented by hand work are expected to meet the program needs.

On all lands the department is working to keep the stand not below 15 to 20 cords per acre, thinking in terms of a 15-year cycle based primarily on thinning of the woods and partly on the mill's need for pulpwood.

Mr. Garrison thinks that in the past the cutting was not heavy enough due to the conservativeness of foresters. Present-day cuts for thinning are heavier. While the company's program is to furnish the mill from its own lands, it will always continue to buy pulpwood and sell to local forest products in the community. It will produce sawtimber, poles and piling for sale.

That this program is already in effect is shown by the record of the five years from 1941 to 1946 inclusive during which the company sold 52,000,000 feet of pine saw logs, 27,000,000 feet of hardwood saw logs, 80,000 tons of stump wood, and $26,000 worth of piling. A Gaylord 500-acre tung tree plantation yielded 2,000 tons of tung nuts during the same period. This plantation is of efficient size, and is not being enlarged.

Mr. Garrison believes in the future of the forester, stating that they are being assigned woods tasks as the old "experience men" from the sawmill days retire. The modern assignment to the forester is an acreage for complete supervision, including production.

HERE ARE SOME GAYLORD WOODS EXECUTIVES. Top (left to right): W. Y. GARNETT, Pulpmill and Woods Crew Foreman, and R. J. FRESHWATER, District Forester. Bottom (left to right): J. SIDNEY BARNETT, Woods Supt. in Livingston; CLAY BYRD, Woodyard Railroad Yardmaster, and MAYO PARR, Woodyard Foreman.

Aerial Photo Equipment

The Fairchild K-17B aerial camera is of Army type and of 6" focal length. Its angle of coverage, flying at reasonable altitude, yields maximum displacement when used with stereoscope, particularly with adjacent pictures having a 200-foot overlap. For this camera, the department has three interchangeable film magazines.

The department also has a Navy F56 aerial camera with 8½" focal length, 54.0 lens, that gives a 7x7-inch picture. This is the standard for Geodetic Survey relief mapping.

The equipment includes an oblique range finder. In taking pictures, the plane maneuvers into correct position and the camera operated semi-automatically, cranked by electricity and fired by hand, or run entirely by automatic control with fire intervals of 22 seconds average. Cut film can be used for single shots. The current operation uses infra-red film with a minus blue filter. This gives a good contrast between pine and hardwood.

Laboratory equipment includes an A-7 type dryer for the infra-red film, with humidity control. A cheese cloth rack has been devised for print work. Equipment includes a Navy type projection Omega, N.F., with F6.3 lens, made by Simmons Omega & Co.

Aerial pictures are identified by view block, with section, township and range. Filing is by the same method which has proven efficient. Experience with the aerial mapping is that it identifies the job by geography, it also is apparent where the company lands end and John Q. Pub-

RAYONIER
INCORPORATED

WOOD CELLULOSE ▶ *is dependably uniform*

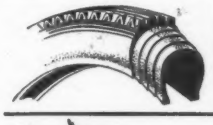
Rayonier's wood cellulose is supplied in several grades to provide the special characteristics required for manufacture of the various types of products in which cellulose is used.

Quality control in production of these high-alpha grades of cellulose assures the constant purity and uniformity required in making rayon, cellophane, and various cellulose derivatives.

In addition to development of new and improved grades of wood cellulose, one of the principal functions of our research staff is the study of the processing characteristics of our products under conditions similar to those found in our customers' plants.

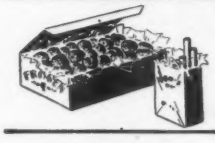
Principal Grades of Rayonier Wood Cellulose

"RAYACETA" is a highly refined wood cellulose developed specially for the production of cellulose acetate rayon. It also is used in the manufacture of acetate films, sheets, and moulding powders for various uses.



"RAYOCORD" wood cellulose is a highly purified product especially suitable for the production of rayon yarns of high tenacity. It is widely used in the manufacture of tire cord rayon and for textile yarns where maximum strength is desired. It is also a good material for the production of saturating papers, vulcanized fiber, and plastics.

"HICOLOR" is an established grade of purified wood cellulose for the production of viscose rayon yarns of high quality. It is also used successfully as a base material for vulcanized fiber and allied products.



"RAYAMO" is a wood cellulose specially developed for the making of cellophane, used increasingly as a protective covering for fruits, vegetables, cigarettes, candy, and many other types of packaged articles.

"PURAYONIER" is a highly refined wood cellulose particularly suited for the manufacture of cuprammonium yarn, saturating papers for production of simulated leather products, and laminates.

EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, N. Y.

MILLS: Hoquiam, Port Angeles, and Shelton, Washington; Fernandina, Florida.

lic's begin. The company employe is shown the map, and the aerial view and told "when you hit timber you are on our land."

Aerial mapping work and aerial fire patrol are from the Bogalusa headquarters. A landing field in Livingston parish makes possible quick trips from headquarters to that location.

Woods Operations Equipment

The Livingston district equipment includes two company designed and built pulpwood mills, each of which is served by three Fordson tractors and six pulpwood trucks. Road construction and maintenance equipment is also to be found there. The land in this district is lacking in any great variations of elevations, tending to be "wet." It has a stand predominantly of the loblolly variety of Southern pine and depends upon natural seeding for regrowth.

In Livingston parish, Gaylord's approximately 120,000 acres of land lies half and half north and south of the Illinois Central railroad. This forest land was cut over on an average 25 years ago (Clyde skidder used) and is currently being thinned on primarily a "sanitary cut" basis. That is, the over-aged, over large, crooked and shaded trees are being removed to leave a thrifty, well stocked stand.

About one-third of the pulpwood cutting is being performed by the company's crews, and the balance by contractors. The latter use a power pulpwood saw, and load into trucks direct. The company has a more complex mechanical set-up.

At the railroad, the company has a Quickway Model E mounted on an Army surplus GMC truck. This unit (the Quickway) has an International U-9 gasoline motor and is rated as a 4/10 yard capacity with a 30-foot boom. The crane unloads two trucks at a time, one on each side, so that the two men on each end of the Gaylord-owned pulpwood railroad car can straighten the sticks while the other end is being serviced. The operator of the crane completes the siding crew of five.

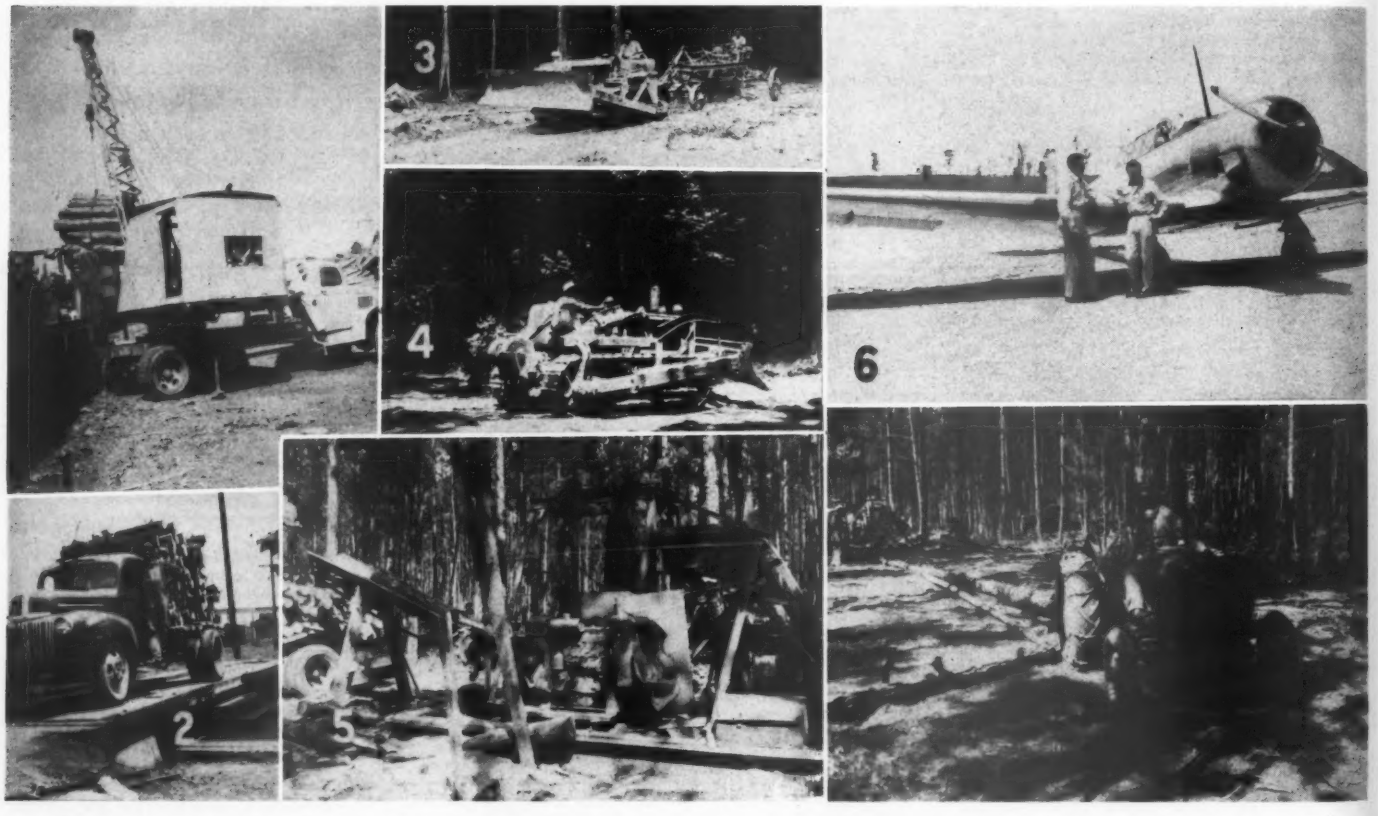
Rapid unloading of the pulpwood trucks is effected because its load is already separated into three slings by chains that are put in place when the truck is loading in the woods. The crane can load on an average of six railroad cars per day, each one holding 16 cords. The company has operated this crane for about nine months.

Pulpwood Mills and Crews

To keep this crane busy, the company operates two pulpwood mills in its woods, and each one is served by six Chevrolet trucks. Each truck has a capacity of 1.7 cords per load, and the maximum distance for that many carrying units is 13 miles.

The trucks load out at a pulpwood mill of the simplest design, consisting principally of a metal trough through which the tree length logs are fed by clipping a ½-inch yellow strand cable to the back end. As the log is advanced, when the end reaches a piece of tin hung by a wire, the 42-inch Disston cut-off saw is pulled through it. A counter-weight draws the saw back for the next cut. The piece of pulp wood is carried to and above the waiting truck by a Link-Belt chain operating along a metal discharge trough. Power for the saw is furnished by an International U-4, of 30½ H.P. A little more power would serve better.

The pulpwood mill crew includes five men. The mill is fed by three No. 1 size Ford tractors. These in turn (for each mill) are served by two Simonds crosscut saws (4 men) with one axe man for each



WOODS VIEWS AT GAYLORD CONTAINER CORP., Bogalusa, La.

1. A Quickway Model E, mounted on a war surplus GMC truck and driven by an International gasoline U-9 motor handles the truck load to railroad car in a hurry. This is rated at 4/10 yard capacity with a 30-foot boom. The rail pulpwood and rack cars here are part of a Gaylord owned fleet of 300.

2. A Chevrolet truck loaded with oak pulpwood being weighed in on the Fairbanks-Morse scale. Gaylord says the weighing is "fair alike to buyer and seller."

3. A Caterpillar D-4 equipped with Hyster winch draws a Russell Standard No. 2 (Model 22). The Cat also carries a LaPlante-Choate trail blazer. The Co. pulls its woods trails about once a year and pulls its ditches every 3 or 4 years. The trails are kept open to get wood out and let fire control in.

4. An International TD-14 with Bucyrus-Erie (Evansville, Ind.) bull grader and Carco winch. This equipment opens up woods trail for pulpwood logging equipment and fire control.

5. A ½" yellow strand cable over a drum feeds the pulpwood to a Disston swinging cut-off saw. The pulpwood lengths are then drawn by Link-Belt chain through a V-trough to the waiting pulpwood truck. A Chevrolet is here. Power for the mill is from an International U-4.

6. T. C. BERCAW (left), graduate forester (Mich.), who served as a major in Army Air Corps, uses this North American AT-6 photographic plane for forest land maping work with a Fairchild K-17 aerial camera. E. B. BROWN (right), former Army Transport pilot is manager of Bogalusa Air Field and pilots for Bercaw.

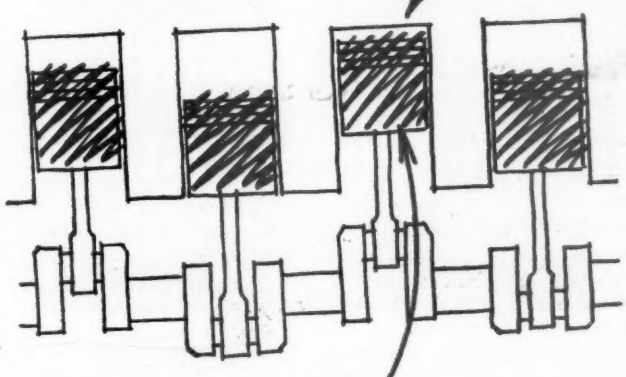
7. A Ford tractor snakes a tree-length pulpwood log to the pulpwood mill. The foresters like this operation method as the Ford gets around without barking the trees.

LUBE MEMO

Engine overheating caused by stuck rings

Compression loss 30%

400 400 280 400



Hot blowby gases burned piston.

Shop found rings in #2 badly stuck by ordinary oil (blowby has been wasting power).

Foreman claims RPM DELO Diesel Engine Lubricating Oil's compounds will prevent stuck rings 3 ways:

1. Decrease carbon
2. Stop formation of gum.
3. Hold contaminants in suspension (they're flushed out on oil change).

Give shop go ahead on RPM DELO Oil

DIESEL ENGINE RPM DELO LUBRICATING OIL

STANDARD OF CALIFORNIA

PART OF A SLASH PINE PLANTATION in the Gaylord Container Corp.'s forests. These trees are 18 years old and the tract will be thinned for pulpwood.

saw. Each mill turns out about 25 truckloads per day.

There is one saw filer for both mills and their crews. Also, one mechanic, one grease monkey for all mechanical equipment, and a watchman who keeps an eye on the equipment in the woods at night. The trucks are run into the warehouse at Walker at night. The supervision is furnished by a superintendent and two woods foremen, one for each mill.

The mill is mounted on sleds, and the feed and discharge troughs are detachable, being bolted on. Customarily one is set up for each forty acres and it is pulled from one location to another by a Caterpillar D-4, requiring an hour and 20 minutes from "cut to cut." Each mill is moved about once a week. This same tractor is used to bunch logs when heavier timber is cut than scheduled for pulpwood—from 4-inch minimum small end to 14-inch diameter. When a tree is cut that yields a real merchantable log for the first cut, it is taken out and the balance of the tree goes to pulpwood. These logs are bunched along the road, and when enough are accumulated they are sold. Customarily, a sale is made when there's enough to make it worthwhile for a sawmill to send for the logs.

In dry weather the mill is centered at about the 40-acre tract, a short ways off the road, to reduce skidding distance. In wet weather, it is placed along the road so the trucks will not have to go into the woods. The skidding of tree-length pulpwood logs with the Fordson is believed a method resulting in little or no damage to other standing growth perhaps less than when the wider trucks are used. In this operation the company doesn't like to skid more than 250 yards.

In its present location, the stand averages about 20 cords per acre and six cords per acre are being taken out.

Wood Handling At Paper Mill

The pulp and paper mill takes about 1,000 cords daily—about half bought and half from their own lands. It also uses about 100 tons waste paper daily.

The woodyard is arranged to receive by truck and by railroad. The company has 300 pulpwood cars of its own.

All wood is weighed in, both truck and railroad car. When the mill started, there were no pulpwood cars, box cars only being available. The woodyard learned then about the trick of racking up pulpwood in the ends of the car or stacking it high at the door and low elsewhere. So the mill has been weighing wood for 25 years; long enough to wear out a railroad scale—a new Fairbanks Morse scale has been delivered. The truck scale also is weighed in. A running check is kept on wood weights by a certain amount of scaling. If wood is very dry, an allowance is made.

The mill believes that weighing of pulpwood is the most satisfactory method. The mill knows what it is getting; the pulpwood seller knows he's actually paid for what is delivered, stacking factors being eliminated.

After the trucks are weighed in (Fairbanks-Morse scale), the pulpwood ends are sprayed with Dowicide to prevent sap stain. A long handled, three pronged spray gun is used, with air pressure.

The woodyard encroaches on the old sawmill site, and includes seven railroad spurs. Rail cars are unloaded with a crane to reserve stack; as needed, reloaded and switched to the conveyor serving the barking drum. The rail cars mostly go direct to the conveyor for unloading, the yard being used as reservoir. Of the 60 cars per day (6-day week) unloaded for mill consumption, about 120 per week come from company lands. Track conditions restrict the volume of rail pulpwood from company land.

The railroad cars are switched by use of a tractor. A Caterpillar (bull dozer equipped) is used to keep the roads up in the yard and to perform other chores.

The company puts oak through a "hog" originally installed by the sawmill to prepare mill ends and trim for paper production plant. The hogged material is carried by a conveyor to the mill, and there processed separately and used as a filler.

Mexican Government Offers New Mill for Sale to Private Operators

The Mexican Government has offered the entirely new and modern kraft pulp and paper mill of Cia. Industrial de Atenquique for sale to a group of pulp and paper manufacturers of Mexico.

They had reached no agreement in mid-February but negotiations were continuing.

The mill which cost about $10,000,000 has been making both pulp and paper for market on a single machine. It is located at Atenquique, southwest of Guadalajara, in Jalisco province, about five hours' railroad journey on the railroad from Guadalajara to Manzanillo.

The mill is now in the hands of the Nacional Financera, which corresponds to the Reconstruction Finance Corp. of the U. S. government, after the original promoters turned the mill back to the Mexican government which had financed it.

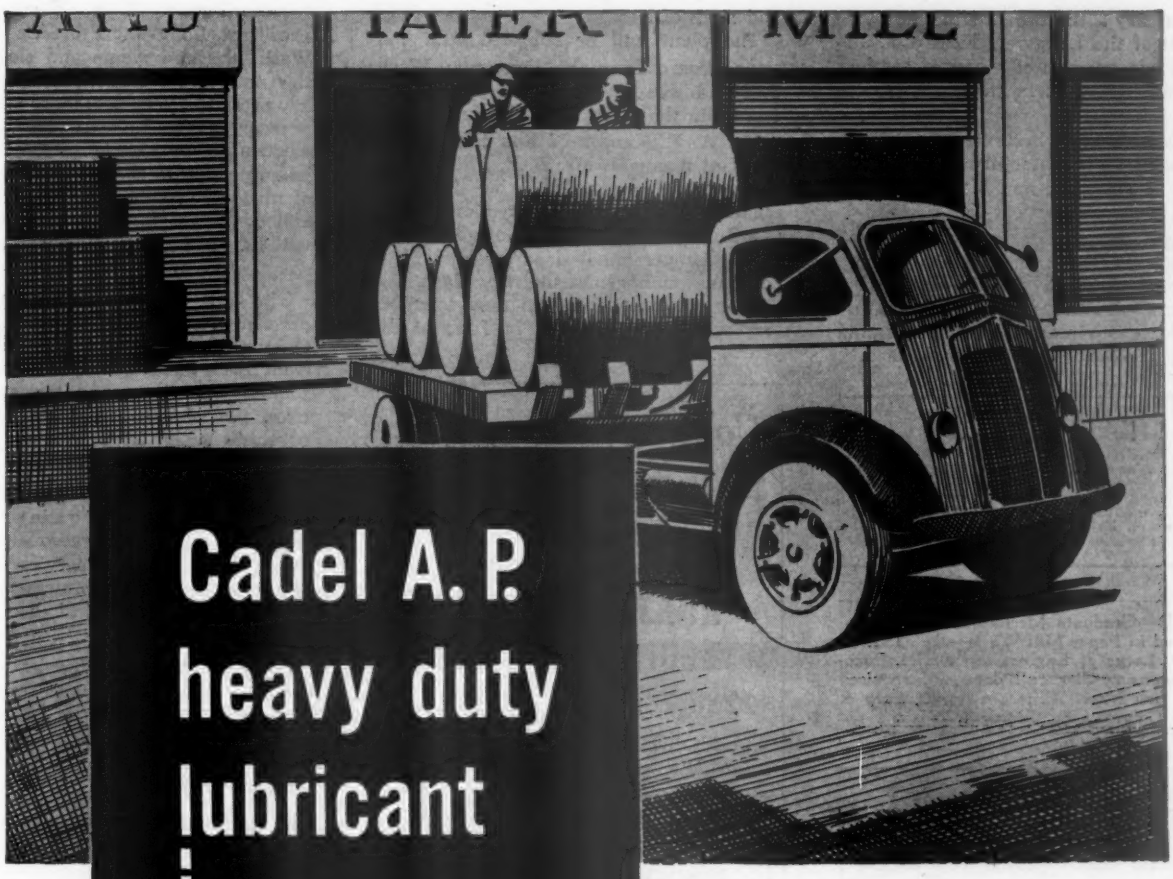
Don Jose Angel Ceniceros, a lawyer and former Mexican ambassador to Cuba, is present general manager, with offices in the Jalisco Building at Ejido 7, Mexico City. Alvaro de Murga, widely known in Mexico in the mining industry, is the resident manager.

David Kuhe, formerly of Southern Kraft Division of International Paper Co., is general superintendent and actual head of operations. A large number of Americans went to Atenquique to supervise installations of their equipment.

Pennock and Lehmuth are Elected Vice Presidents At Moore & White

George M. Pennock, the firm's executive engineer, has been elected a vice president of The Moore & White Co.

The Board of Directors also elected Plant Manager Henry Lehmuth, 111, a vice president, and reelected George Lear as President and Conrad J. Kern as Board Chairman.



Cadel A. P. heavy duty lubricant

is the only motor oil you need

In trucks, tractors and diesel or gasoline power plants in the mill, Cadel A. P. Heavy Duty Lubricant is the only cylinder oil you need for finest lubrication and most efficient operation. It's a truly *all purpose* oil that will simplify your oil purchasing and storage, and eliminate the risk of using the wrong oil in any engine. Cadel is available in SAE grades 10 to 50.

Cadel A. P. is made from a top-quality, specially treated base oil. A superior, multiple purpose additive prevents oxidation, bearing corrosion and engine deposits. Oil lines, valves and rings are kept clean and free, and pistons and cylinder walls are mirror-bright. For fewer repair bills and overhauls, and for generally more efficient operation, use Cadel A. P. exclusively.

Call your Associated Representative for expert help on any lubrication problem

Tell Your Associated Dealer You Want a National Credit Card

TIDE WATER ASSOCIATED OIL COMPANY

New Corrugated Box Plant

On January 30th, R. S. Wertheimer, vice president of the Longview Fibre Co., announced construction of a corrugated box manufacturing plant in the Los Angeles area.

The plant is being built on a 7-acre site in the central manufacturing district of Vernon, at Fruitland and Maywood Avenues.

A single, modern design building, approximately 300 ft. wide and 400 ft. long, constructed of steel, reinforced concrete and glass, will house new corrugating box-making equipment, warehouses and shipping facilities, together with factory and sales offices.

The plant will be supplied with container board from the Longview, Wash., mill and will distribute corrugated containers in the Southern California area.

Mr. A. F. Knaggs of Los Angeles will be plant manager, Mr. D. B. Phillips, box department foreman at the Longview plant, will be plant superintendent. Mr. C. G. Guinn, presently employed in the Longview personnel department, will be personnel manager of the new plant.

It is expected that the new box factory will start operation in June of this year.

HELP WANTED

SALES ENGINEER — Age 25-40; preferably acquainted with pulp and paper mills. Established concern, good opportunity and salary. Need car, travel part time Northwest area. Give full particulars. Confidential. Reply Box 4, PULP & PAPER, 71 Columbia Street, Seattle 4, Wash.

WANTED—Graduate Mechanical Engineer—experienced in Paper Mill Work—age about 40—to take charge of Engineering Office. Location, Wisconsin. Give full data and required salary in first letter. Write c/o Box 3, Pulp & Paper, 71 Columbia St., Seattle 4, Wash.

ANNOUNCEMENT

Effective February 1, Mr. C. H. Kreienbaum, President of the Simpson Logging Company, will establish his executive offices in the Simpson Logging Company suite, White-Henry-Stuart Building, in Seattle.

SIMPSON LOGGING COMPANY
SHELTON, WASHINGTON

USED EQUIPMENT FOR SALE

8 42" dia. x 120" face decker cylinder moulds with 12 x 64 mesh Type 316 stainless steel face wires, bronze spiders, stainless rods and No. 12 gauge stainless winding wire. Both ends open and with shaft extension each end.
3 42" dia x 120" face decker cylinder moulds as above except with bronze rods.
1 42" dia. x 120" face decker cylinder mould as above with stainless bars and less face wire.
5 36" dia. x 72" face decker cylinder moulds with 12 x 64 mesh Type 316 stainless face wires and stainless winding wire. One end closed.
12 20" dia. x 123" face rubber covered couch rolls, 2 3/16" dia. shaft extension each end.
5 24" dia. x 72" face rubber covered couch rolls, 2 3/16". dia. shaft extension each end.

SOUNDVIEW PULP COMPANY
EVERETT, WASH.

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PULP & PAPER'S

1948
NORTH AMERICAN
REVIEW NUMBER

22nd Edition -- April 23rd

The NORTH AMERICAN REVIEW NUMBER will again include statistical data on consumption, production, capacities, and figures on international trade covering all pulp and paper products, financial information, and other reference material that has made these review editions so outstanding and unique in the industry.

ONE OF 13 ISSUES DURING THE YEAR

Subscription Rates: 1 year $3.00—2 years $5.00. (The NORTH AMERICAN REVIEW NUMBER price $2.00—is included in the regular subscription rates)

ADVERTISERS:

LAST CLOSING DATE FOR THE REVIEW NUMBER — APRIL 10th—

FRED TER BURGH, KVP Co., and E. J. Arey and Robert Dean, Sutherland Paper Co., were elected new executive committeemen of the Foremen's Club of Kalamazoo and holdover members of the committee are Henry Daub of KVP and A. J. Williams, Allied Paper Mills.

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Longview Fibre's New Steam and Electric Facilities

According to R. S. Wertheimer, vice president, Longview Fibre Co., Longview, Wash., the new steam and electric facilities now under construction, will replace low pressure units with more efficient high pressure units, and increase steam and electric generating capacity so that, if and when necessary, the company's production of up to 550 tons per day of board, paper and converted products can be produced without reliance on any outside source of steam or power.

The new steam generating units comprise three 900-pound pressure boilers. One will produce 100,000 pounds of steam from black liquor recovered from the pulp cooking operation; and two will have a maximum of 230,000 pounds capacity each per hour when fired with oil or hogged fuel.

The new electrical generating units comprise two turbines rating 16,000 KW. With the turbines previously installed, which will remain in service, the aggregate rating of all the company's electrical generating facilities will become 24,500 KW.

Some of the new equipment has been on order for some months, and contracts have now been placed for the balance. Units will go into service as completed, and the entire program will be completed by the middle of 1949.

ED. AUSTIN of the paper sales department of Perkins-Goodwin Co., New York, is one of the best known salesmen in the industry. Recently it turned out that he is more than that—he is a man with highest honor in his own home town of Maplewood, New Jersey .

Three hundred Maplewood citizens paid tribute to Mr. Austin at a testimonial dinner at the Maplewood Country Club, a song called "Friendship" was written and sung in his honor, and the local press burst out with news and editorials about the affair. A surprise to Mr. Austin himself, it was an evening which will be long remembered by those who attended, representing a cross-section of Maplewood. Said the publisher of the Maplewood News in an editorial: "One of the first names we heard when we came to Maplewood was 'Ed Austin.' He carried no official titles and held no public office, but was one of the old-timers who worked quietly behind the scenes, a guy who did things and who got things done . . . There is apparently no limit to his interests. His number one avocation is doing something for boys, but a close runner-up is the school system. He's just as much concerned with girls' organizations, activities for men, community bus lines, independent post offices, good government . . . when he relaxes his mind is at work on how to push along old projects and how to get new ones started."

So they came out, voluntarily, to praise Ed Austin's good deeds—a paper salesman who is first of all a good citizen, the kind of a man who makes America go in the Maplewoods everywhere.

THE CHEMIPULPER
Asplund DEFIBRATOR

Now you can get
CONTINUOUS PRODUCTION
of CHEMICAL and
SEMI-CHEMICAL
PULPS
from hard woods . . . soft woods . . . mixed woods. Pulps for paper and paper board . . . boards and dry felts . . . from straw, bagasse, etc.

Ask for Catalog

The Answer to Continuous Cooking

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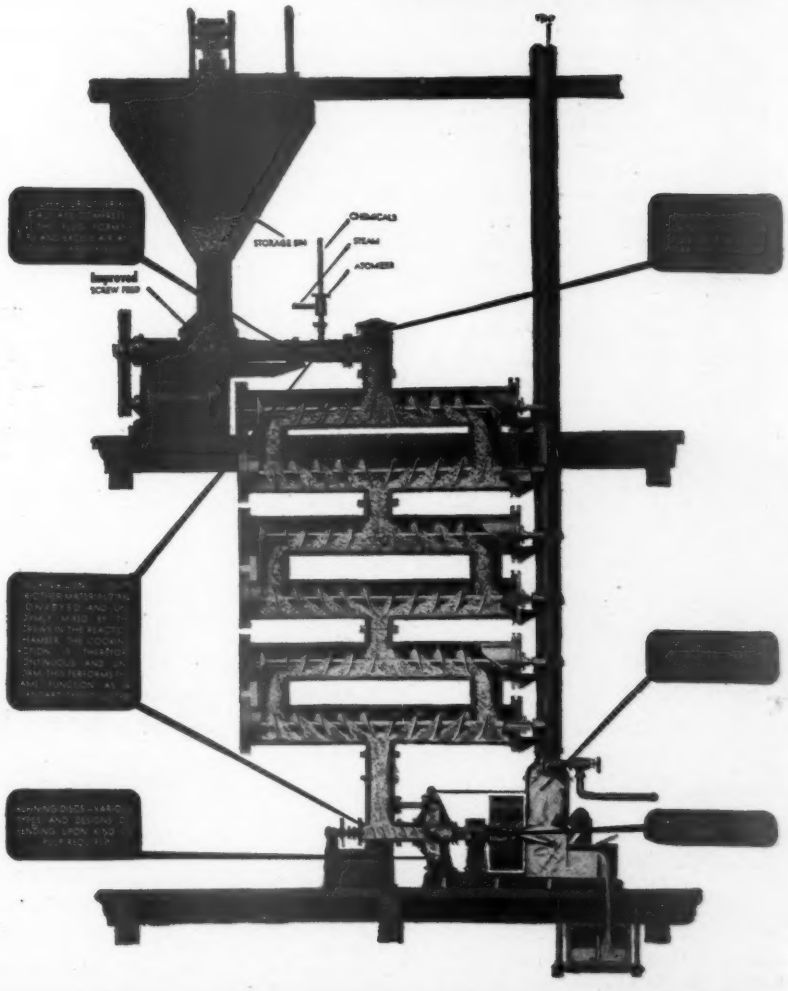


The Reaction Chamber is made in units and the number of these can be varied according to the degree of treatment required.

Illustration shows combination of
ASPLUND DEFIBRATOR
with three-unit
REACTION-CHAMBER

Patented and Patents Pending

PAPER and INDUSTRIAL APPLIANCES, INC.
122 EAST 42nd STREET NEW YORK, N. Y.

SAFETY CONFERENCE
Awards Made to Three Mills

Three surprise awards of safety certificates from the State of Washington Department of Labor were made at the joint-management safety conference held in Tacoma, Wash., Jan. 21-22. The awards went to Pacific Coast Paper Mills of Washington, Bellingham, Wash.; Everett Pulp & Paper Co., Lowell, Wash., and the Crown Zellerbach kraft mill at Port Townsend, Wash.

Dan Adair, supervisor of the division of safety of the state department, made the awards after delivering an address in which he singled out the pulp and paper industry of Washington as having done "a really outstanding job in developing a safety program and of having established an outstanding safety record for 1947."

There were 21 pulp and paper mills of the state participating in the conference, the third of a series held on the Pacific Coast, which are said to be unique in their conception and organization as far as any industry is concerned. Nothing else like it has been reported anywhere else on the continent. There were 134 delegates at the Washington state sessions. In previous issues of this magazine we reported recent similar meetings for Oregon and California mills.

Presiding over the conference were Co-Chairmen John Sherman, Tacoma, vice president of the International Brotherhood of Pulp Sulfite and Paper Mill Workers, and O. R. Hartwig, Portland, Ore., general safety supervisor, Crown-Zellerbach Corp. Co-Chairman Sherman opened the conference by saying that, no other meeting of labor and management has earned so much acclaim or cooperation. Co-Chairman Hartwig stated, "Safety has become a greater and more definite part than ever before in the relationship of management and labor."

Earl Anderson, director of the Department of Labor and Industries, commented: "The pulp and paper industry and workers of this state, in their joint labor-management safety program, are doing an outstanding job which is attracting attention of all American industry. In the past year the state industry reduced accident frequency by 55% as compared with 1946."

R. S. Wertheimer, vice president and general manager, Longview Fibre Company, and secretary - treasurer, Pacific Coast Association of Pulp & Paper Manufacturers, said:

"Safety, originated and aggressively followed up by management, can only have the effect of permeating all levels of supervision to an extent that it will make every worker sufficiently conscious of safety to realize that it is one of the requirements of his job."

W. E. Brechtenbach, vice president and general manager of Rayonier Inc., Port Angeles, said, "Accident prevention is a highly cooperative undertaking of vital importance in our every day lives. It is a program in which management must assume the major responsibility."

Ned H. Dearborn, president of the National Safety Council, Chicago, was the banquet speaker. He cited six "murderous beliefs" which must be dispelled before the safety movement can reach its objective:

1. Nearly everybody seems to assume that an accident will happen to the other fellow, but never to him.

2. An amazing number of people subscribe to the philosophy that an accident happens, or it doesn't—that, "your number is up," or it isn't up.

3. Too many people shrug off accidental death and injury, saying they are due to the law of averages.

4. It is often said accidents are the natural price paid for progress.

5. Some people hold that safety is inconsistent with the spirit of our forefathers who took great risk to found our country or, in other words, that safety is sissy!

6. Finally, some folks feel that an accident is an Act of God.

Attending the conference were representatives from Crown-Zellerbach Corp. mills at Camas, Port Angeles and Port Townsend and offices at Portland, San Francisco and Seattle; Longview Fibre Co.; Weyerhaeuser Timber Co., Pulp Division—Everett and Longview; Rayonier Incorporated, Hoquiam, Port Angeles and Shelton; Fibreboard Products Inc., Port Angeles and Sumner; Columbia River Paper Mills, Vancouver, Wn.; West Tacoma Newsprint Co.; Pacific Paperboard Co., Longview; Inland Empire Paper Co., Spokane; Pacific Coast Paper Mills, Bellingham; St. Regis Paper Co., Tacoma; Soundview Pulp Co., Everett; Everett Pulp and Paper Co.; Puget Sound Pulp and Timber Co., Bellingham; and Anacortes Division of Coos Bay Pulp Corp.

THOMAS BAYARD McCABE, President of Scott Paper Co., Chester, Pa., was prominent in news last month when President Truman announced his appointment as Chairman of the important Federal Reserve Board of Governors. Simultaneous with this appointment, the President demoted Marriner S. Eccles from Chairman to Vice Chairman and some of the political observers were surmising that this was a victory for Treasury Secretary Snyder in clashes which he has had with Mr. Eccles.

Paper Mill Men Elect Officers

The Paper Mill Men's Club of Southern California, social organization of mill men and representatives, elected a new slate of officers to guide the affairs of the group for the current year, at a special election meeting held last month at the Oakmont Country Club, Glendale, Calif.

Gerry N. Madigan, of Johnson Carvell & Murphy, was chosen president; Irvin E. Damon of Northern Paper Mills, vice-president; Jack Leiser of Pioneer Wrapper Co., secretary; and Roland Wolf of California Cotton Mills Co., treasurer.

The election was preceded by an afternoon of golf on the beautiful Oakmont course. Since no competition was involved, no winners can be announced, but a good time was had by all.

The business meeting was short and harmonious. All the new officers were chosen unanimously.

NEW $1,000,000 PLANT
Started Up by Flintkote

The Flintkote Co.'s Pioneer division started up its new $1,000,000 plant in Portland, Ore., in February at 5700 N.W. Front Avenue. Roofing, insulation board and other building materials are being produced. Tile-tex flooring, felt and emulsion are to be products added later. Until then, felt base for roofing and siding will be shipped to the Pioneer Division plant in Los Angeles.

James Orr, formerly Spokane, Wash., district manager, is manager for the new Northwest sales headquarters at the Portland plant. Plant superintendent is W. A. Moore, formerly head of building materials work in the Los Angeles laboratory. W. J. Thomas is assistant superintendent. G. M. Cunningham is chief engineer. T. S. Glatfelter is office manager. J. R. Evans is traffic manager.

The mill started up with one shift of 50 employes. Two more shifts will be added later. The main plant, built of corrugated aluminum siding, with Flintkote roofing, is 522 by 115 feet. All motors are electric. There are separate buildings for asphalt preparation and for storage.

Nationwide, Flintkote has grown from a 1934 operation employing 1200 and with plant value of $3,572,000 to 1947 totals of 6400 employes and plant value of $24,000,000.

A vital factor in the paper and woodpulp industry!

Our intimate world-wide affiliations—branch offices and personal representatives—gear this international organization to the making of "time". Time, and timeliness, as the industry well knows, spell profits in the distributing and marketing of paper and woodpulp.

As importers and exporters of these materials, Elof Hansson Inc. has the broad facilities that bring buyer and seller together quickly regardless of where they are located. That makes time—and profits—for both.

The organization of Elof Hansson maintains offices in:

Gothenburg
London
Sao Paolo
Rio De Janiero
Buenos Aires
Mexico City
Bombay
Shanghai

and representatives in all key cities throughout the world!

ELOF HANSSON INC.

220 EAST 42ND STREET NEW YORK 17, N. Y.

NEW ST. REGIS MACHINES
Will Start Producing in 1948

Roy K. Ferguson, president of St. Regis Paper Co., has indicated that with sustained demand and taking cognizance of new capacity of the company which will come into production, it may be estimated that St. Regis sales for 1948 will exceed 1947 by 15%.

Sales in 1947, he says in a year-end statement, mounted to a new peak in the neighborhood of $140,000,000, compared with $82,782,186 in the preceding year, reflecting property acquisitions of 1946 and higher output.

During the past year, states Mr. Ferguson, St. Regis substantially increased its timber holdings to insure adequate supply of basic raw material on a long-term basis. The company now owns or has cutting rights on close to 2,000,000 acres of forest lands.

Pointing out that it is being increasingly recognized in this country that the limiting factor on production of pulp and paper in the long run may be the supply of economically accessible wood, Mr. Ferguson adds: "St. Regis now has large resources of timber, advantageously located, and is following faithfully the most scientific forestry practices, with the goal in mind of sustained yield to provide for future needs."

Mr. Ferguson reports that early in 1948 "the world's largest center of integrated multiwall paper bag production" will be in full operation 17 miles north of Pensacola, Fla.

"Through our affiliation with James H. Allen and his associates, resulting in ownership of Florida Pulp and Paper Co. and Alabama Pulp and Paper Co.," according to Mr. Ferguson, "the original Florida mill with a present capacity of 200 tons of kraft paper daily will be added to in the first quarter of 1948 by the Alabama mill with a rated daily capacity of 250 tons."

Adjacent to these properties, the new St. Regis multiwall bag plant, designed to consume 200 tons of kraft paper daily and capable of turning out over 150,000,000 multiwall paper bags annually, will go into operation in the near future.

At Tacoma, Wash., site of the company's sulfate pulp mill, St. Regis has commenced construction of a kraft paper mill with a daily capacity of 240 tons. This mill, Mr. Ferguson indicates, should be in production by the end of 1948. As a further step, the company plans to build a multiwall bag plant there.

During the past year the Deferiet, N.Y., mill placed a second on-the-machine coater in operation and a third will come into operation some time during the first quarter of 1948. At the Bucksport, Me., mill a machine coater is being designed which will be in operation late in the year.

During 1947 the new bleaching plant at Bucksport, for bleaching groundwood and sulfite pulp together, came into operation, while at the Deferiet mill, according to Mr. Ferguson, the company is planning further improvement in its pulp bleaching facilities.

PRODUCTION RECORD

Production of paper and paper board reached a new all-time high record for the United States during 1947 of 21,028,898 tons.

This is 1,751,231 tons or 9.1% greater than the previous all-time record established in 1946, according to the U. S. Department of Commerce.

Paper alone reached a record high of 10,634,481 tons, 846,988 tons more than in 1946. Paperboard production totaled 8,396,233 tons in 1946 and climbed to 9,043,824 tons in 1947.

This was less of an increase percentagewise than for paper. Boxboard production slightly declined. Building board showed biggest increase of any group—27% or 257,992 tons.

JOHN W. THOMPSON, left, Forester for the new Johns-Manville Prod. Corp. mill now nearing completion at Natchez, Miss.

HECTOR H. HOWARD, JR. (right), is supervisor of wood procurement for the new mill. He is a graduate in forestry from Pennsylvania State College, and was previously associated with the C. A. Bargo Lbr. Co., Macon, Miss.

UNION BAG PLANS 6TH MACHINE

Union Bag & Paper Co., already claiming the largest integrated pulp, paper and finishing operations at one locale—on the Savannah River—in the world, anticipates the installation of a sixth paper machine of probably 220 inches width (trim) "in the not too distant future."

In a recent address before the Savannah Rotary Club, Alexander Calder, president of Union Bag & Paper Corp. said:

"I told the industrial committee of Savannah in 1935 that we would have five paper machines in ten years. It took eleven years, but war priorities delayed us at least a year. Incidentally, one side of the mill still has no wall, so you see the plant is still unfinished. I hope to recommend to the board of directors a sixth unit in the not too distant future.

"Our five paper machines all trim 220 inches, and there are only four other paper machines in the entire world as large as these.

"The square footage of our bag factory was increased by 105,000 square feet in 1942 and 257,000 square feet this year.

"Our new box factory will convert 65,000 tons of kraft a year and new box plants recently purchased in the North (at Trenton, N.J.) will convert a total of 75,000 tons. These Northern plants are necessary to furnish emergency service and small orders to customers whose large orders will be run here at Savannah.

"Next year we will bring the total power generated in our plant up to 60,000 kilowatts, or enough to supply cities of the size of Savannah and Charleston with all their requirements.

"We are in ten different businesses: saw timber, turpentine, pulp, paper, grocery bags, specialty bags, multiwall bags, boxes, tall oil, and Scutan waterproof paper.

"We expect the South's kraft board consumption to be 45% greater in 1952 than it was in 1947, a year that broke all records by a wide margin."

In order to give you an idea of the immensity of our operation in Savannah I would like to mention a few vital statistics:

"We use 140 carloads of pulpwood a day, which costs us approximately $9½ million per year delivered.

"$2½ million worth of chemicals are consumed every year, and our freight bill is $6½ million.

"About one million barrels of fuel oil are consumed a year at a cost approximating $3 million.

"The total payroll is $12 million.

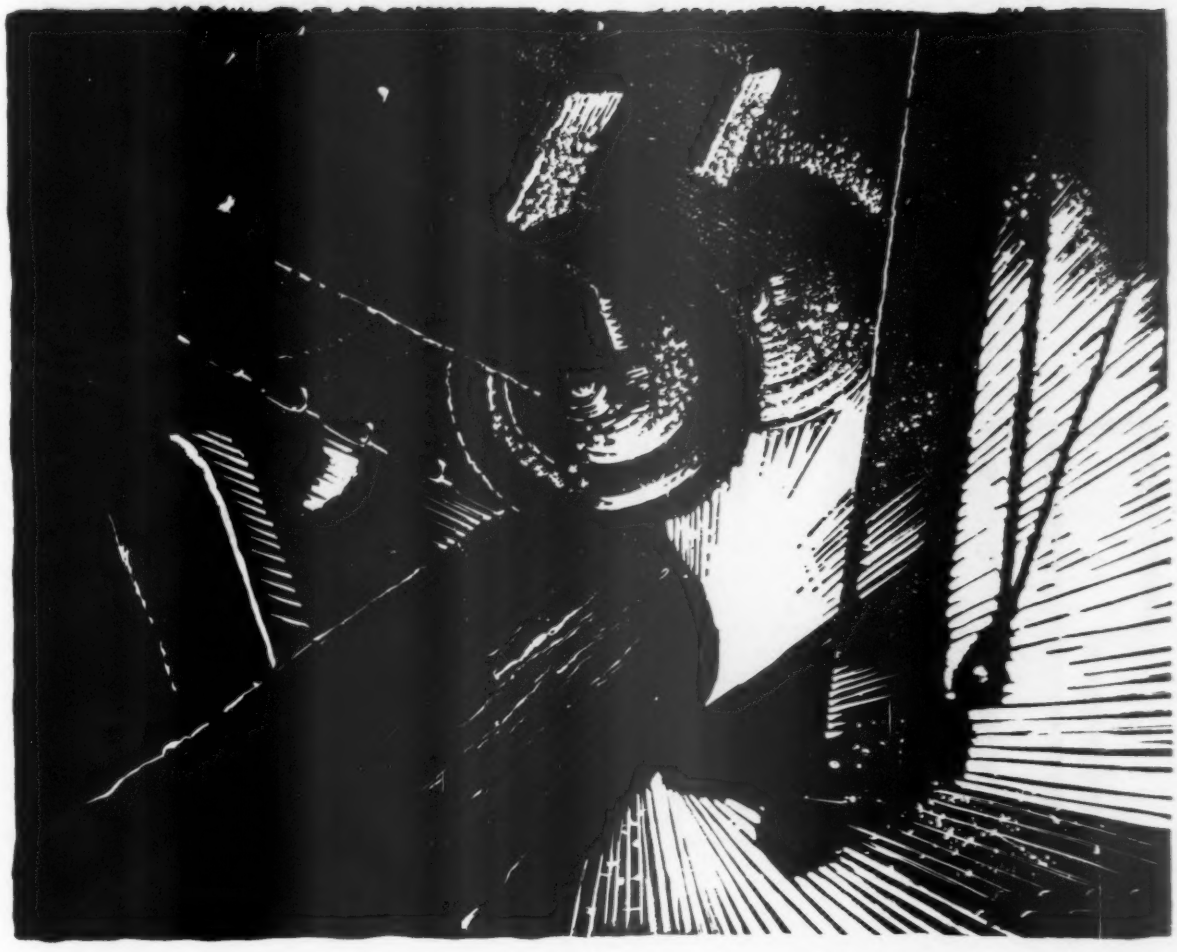
"We employ 4,500 people in the Savannah plant, against 700 when we started operations.

"Though not employed directly by us, between 2,500 and 3,000 persons work in the woods cutting the 140 carloads of wood we use every day.

"The annual production of our five paper machines, totalling more than 1,100 tons daily, would circle the earth 22 times with a strip 20 feet wide."

C. STEWART LEE, vice president of the Pusey and Jones Corp. since 1924, has retired. Mr. Lee remains a member of the board. In 40 years with Pusey and Jones, Mr. Lee visited almost every important mill in United States and Canada, and traveled extensively in South America, Western Europe and Russia.

Y. F. HARDCASTLE, vice president in charge of manufacturing for the Pennsylvania Salt Manufacturing Co., announced recently the appointment of William F. Mitchell, superintendent of Pennsalt's Wyandotte, Mich., plant for the past three years, as assistant vice president. Gustave A. Nelson, formerly assistant superintendent at Wyandotte, has succeeded Mr. Mitchell as superintendent, it was announced. Announcement also was made of the appointments of Herman J. Eichengofer and Hugh C. Land as assistant superintendents of the Wyandotte plant.



Barking up the right tree... hydraulically

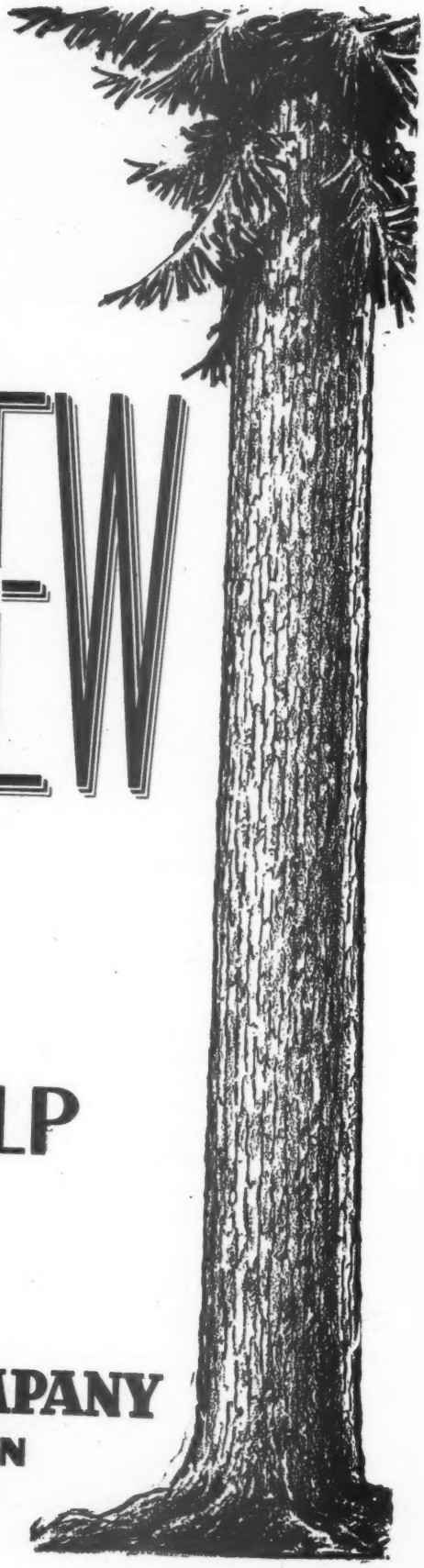
Whoosh! Bark and water fly as another West Coast Hemlock is barked clean as a whistle by a sweeping jet of water blasting away at a pressure of 1,475 pounds per square inch.

Then, into the mouth of a gigantic chipper, crashes the barked log, which may run to forty inches in diameter, twenty feet in length, to be reduced to evenly-sized chips in less than half a minute.

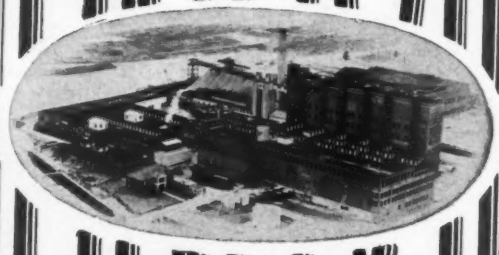
Developed first by the Pulp Division, Weyerhaeuser Timber Company, hydraulic barking of West Coast pulpwood, coupled with whole-log chipping, has eliminated a former source of waste and has resulted in an increased yield of as much as 20%. Now, only four logs are required to make as much pulp as five logs formerly produced.

These and other developments, such as slab barking, represent further important steps toward the goal of complete wood harvest. Continuing research and engineering efforts are directed toward further progress in the Weyerhaeuser program of whole-crop utilization.

PULP DIVISIONS WEYERHAEUSER



SOUNDVIEW



High Grade

BLEACHED SULPHITE PULP

SOUNDVIEW PULP COMPANY
EVERETT WASHINGTON

UNION PACIFIC ADVOCATES
Use of Bulkheads on National Basis

To a seafaring man, bulkheads are watertight walls partitioning a vessel into sections in the interest of safety and to better withstand and protect its cargo against the hazards of the rough seas; but to Union Pacific railroad officials, interested in freight loss and damage prevention work, bulkheads are all-important, adjustable safety walls or dividers used to partition and protect package freight from shifting and damage when moving in rail cars.

What bulkheads mean from the standpoint of safety and benefits to manufacturers and consumers, as well as railroads, in the movement of package freight, has been summarized by Union Pacific officials after several years of study. This study included a long period of experimentation which served to convince them of the practicability and desirability of utilizing bulkheads and segregation gates for the safer handling of package freight, generally referred to as merchandise.

Since adoption of bulkheads as regular equipment at Union Pacific freight houses and transfer platforms, their value from a standpoint of loss and damage prevention has been amply demonstrated. Two standard car-width bulkheads were designed, one six feet and the other eight feet in height. They are constructed of one by six-inch rough fir lumber securely fastened together with nails, which nails are carefully clinched to insure strength as well as a smooth surface.

Bulkheads are held in place by use of steel straps or bands, ends of which are securely anchored and held in place by metal plates attached to side walls; the other ends of the metal straps are passed around the bulkheads and clinched with a machine supplied for that purpose. This serves to keep bulkheads and freight firmly in place and prevents shifting or falling.

As an illustration, a sizeable portion of a carload of freight for one town may be compactly loaded, floor to roof, and occupy a small part, or half of the space in a car, and there braced and secured by a bulkhead for protection until such time as it arrives at the unloading point. The remainder of the space in the car may be similarly utilized, divided and braced by use of a bulkhead. This serves to prevent shifting, falling or mixing, which is more likely to occur in the absence of a bulkhead, hence it serves to minimize damage.

O. J. Wullstein, General Freight Claim Agent, in charge of this program, emphasizes the foregoing represents but relatively few of the many advantages and benefits incidental to the use of bulkheads, segregation gates, and metal straps for better protection of merchandise while in transit.

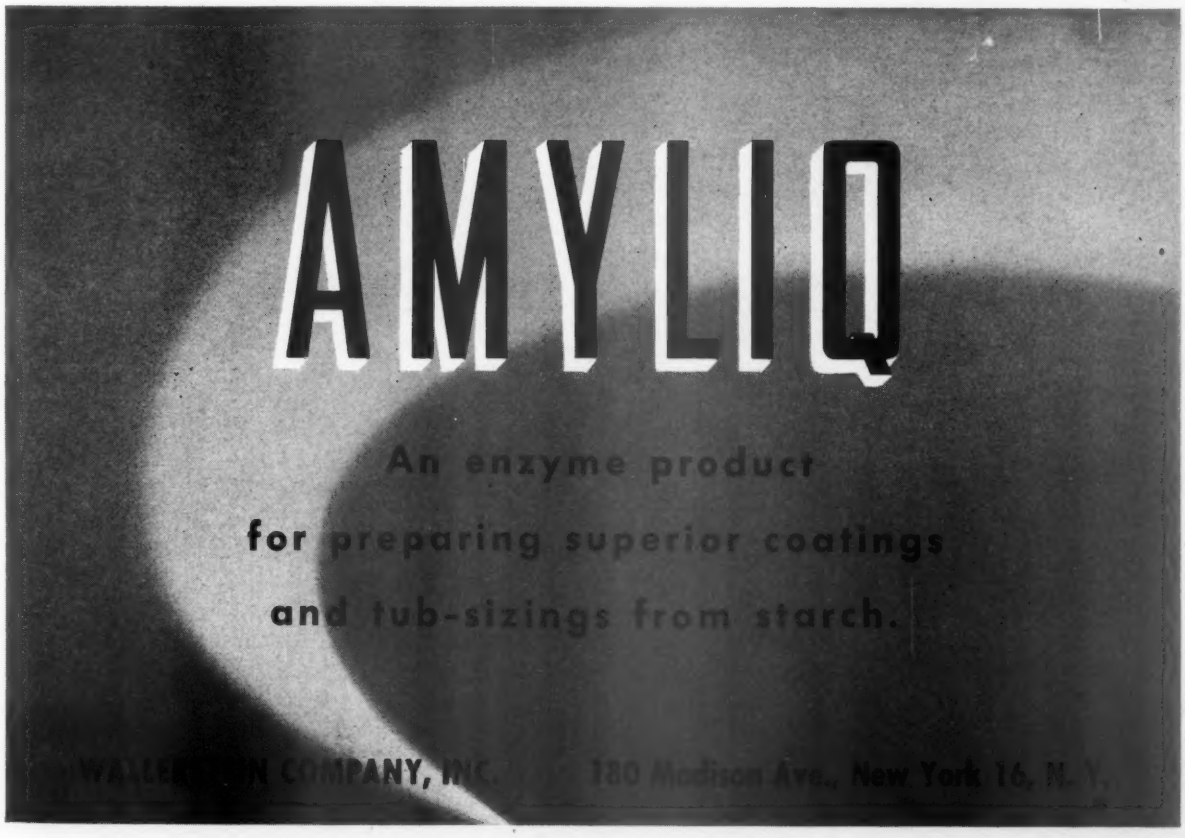
Mr. Wullstein cited an experience, just this year, where a carload of merchandise, with one-half of the load protected by bulkheads, was involved in a derailment at a point in Kansas, the car rolling completely over three times and coming to rest right side up, after which it was promptly rerailed and moved into Kansas City, where the bulkhead was found to be intact and freight in that end of car free of damage. Mr. Wullstein, however, stressed the point that bulkheading alone would not have saved the lading from damage in the absence of good containers.

"We on Union Pacific are firmly convinced of the value of bulkheads and segregation gates," Mr. Wullstein declared. "Union Pacific pioneered their use in the west and currently is a leader in advocating their adoption on a national basis. The universal use of such safeguards would be a big step toward reducing the annual $100,000,000 rail freight loss and damage bill that is working to the detriment of everyone in these days of peak prices and scarcities."

MR. LAWSON TURCOTTE, executive vice president of the Puget Sound Pulp and Timber Co., Bellingham, was recently elected to the board of governors of the Washington Athletic Club of Seattle.

LEONARD McMASTER, representative in Portland, Ore., for the Pacific Coast for Asten dryer felts and Orr felts and other mill equipment, has been seriously ill during recent weeks and underwent two operations, but he is now recovering nicely and plans soon to be making the mill rounds again.

ARNOLD J. DUNNING, retired traffic manager of Kalamazoo Vegetable Parchment Co., Parchment, Mich., was recently presented with a car radio by the Kalamazoo Traffic Club. More than 160 paid tribute to him at a dinner.



Bellingham Pulp Mill

MARKETS ANOTHER BY-PRODUCT

Puget Sound Pulp & Timber Co., Bellingham, Wash., has started production and marketing of a new pulp mill by-product, Lignosite, a light colored plastic powder used principally in building materials or as a binder. This will also be available in liquid form at approximately 48 solids.

This is the second by-product developed commercially by this company utilizing the sulfite mill effluent, the first being ethyl alcohol. The new and modern alcohol plant was described in an illustrated article in **PULP & PAPER** in the June, 1945, issue, shortly after it began production, and is now producing at a rate of 8,000 gallons daily of ethyl alcohol.

The addition of Lignosite, as another by-product utilizing the non-cellulose compounds of wood in the mill effluent, enhances the overall economic outlook for all the products of the mill, simply by increasing the "earning power" of the wood being consumed.

The mill makes 360 tons of pulp per day, seven days a week. It is also operating a modern board mill, which was merged with the company recently after being set up as a separate company.

Thus, at present, Puget Sound Pulp & Timber Co. has four divisions—The Pulp Division; the Paperboard Division; the Alcohol Division; and the Lignosite Division. Operations of all four are headed by Lawson P. Turcotte, executive vice president, and Erik Ekholm, general superintendent. Sales for all divisions are in charge of Ralph Roberg, vice president. Eric O. Ericsson is technical director for all four divisions. Harold Cavin and V. C. Haner are development and plant engineers for all operations.

Assistant superintendents of the pulp mill are Sidney Collier and Fred Gilmore. Superintendent of the alcohol and lignosite plant is Donald Reed. Superintendent of the board mill is L. Lamberson.

Actually the Lignosite is produced from waste materials after the mill effluent has been processed in the alcohol plant. Fermentation and centrifuging processes of the alcohol plant are "pre-treatments" which enable the company to develop the new material, Lignosite. The Lignosite is processed in an evaporation unit and spray-dried into a fine powder, the waste heat from the alcohol plant making such operation economical. Actually, only one-fifth of the liquor available from the alcohol plant is being used in the new plant and, on account of the limited amounts that can be used in this field this limited production virtually fulfills the market needs.

Principal equipment used in the Lignosite Divisions follows: Evaporation unit is equipped with Ingersol-Rand ejectors, vacuum flashtanks and piping by Electric Steel Foundry. Pumps were furnished by Bingham Pump Company. The spray-drying equipment was furnished by Western Precipitation Company.

Coating Meeting

The Annual Coating meeting of the Michigan Superintendents' Division at the Park-American Hotel, Kalamazoo, Mich., on March 18 will be held in this country—the first all day session devoted entirely to the mechanical phases of drying, calendering and winding of coated paper.

Speakers are the program:

Herman G. Rappolt, vice president, J. O. Ross Engineering Corp. will speak on "Drying."

E. E. Thomas, Appleton Machine Co., will discuss "Calendering."

A. A. Neese, mechanical engineer, Beloit Iron Works, will give a paper on "Winding."

John F. Halladay, consultant of Elkhart, Ind., will serve as moderator. A panel of such outstanding coating men as Norman I. Bearse, Champion-International Co., Lawrence, Mass.; Kenneth W. Osborne, The Ohio Boxboard Co., Rittman, Ohio; Charlie Crow, The Mead Corp., Chillicothe, Ohio; Richard Peeters, St. Regis Paper Co., Mich.; and others will assist the moderator.

A tentative program is as follows:

9:30 A.M. to 12:00 Noon—Mill visitations and demonstrations.

1:00 P.M. to 2:30 P.M.—Luncheon at Park-American.

2:30 P.M. to 4:00 P.M.—First paper.

4:00 P.M. to 5:30 P.M.—Second paper.

6:30 P.M.—Dinner at Park-American, followed by the third paper and discussion.

Olin W. Callighan, of Edgar Bros., secretary-treasurer, says any persons connected with the industry in any way is welcome.

Gaillet and Hartig Co., Inc.

Gaillet and Hartig Co., Inc., 250 Park Avenue, New York, are successors to the pulp and paper firm of Bowmall and Co., Inc. The company was organized when the president of Bowmall and Co., L. W. Bowmall, was elected vice president of a large pulp firm in September of 1947.

President of the new firm is Emile P. Gaillet, formerly vice president of Bowmall. Vice president is now Charles R. A. Hartig, also a former Bowmall vice president. F. S. Warren is treasurer and Fred W. Cassirer is secretary manager of the paper division. The company are agents for foreign and domestic manufacturers of pulp and paper, fourdrinier wires and felts, and a number of American mill machinery manufacturers.

Kimberly-Clark Starch Needs

The three Kimberly-Clark Corp. mills producing book paper — Niagara, Wis., Kimberly, Wis., and Niagara Falls, N.Y.— consume about 20 tons of corn starch every day for coating. To make this much corn starch requires about 2,000 bushels of corn daily.

RAYMOND BARTON, general superintendent of Michigan Paper Co. of Plainwell, has a daughter in Berlin with her husband, Lt. Col. Saul S. Dorfman, who is in personnel work at the army of occupation headquarters.

O. L. LEROUX, retired manager of the Brainerd, Minn., mill of The Northwest Paper Co., and Mrs. LeRoux spent their first vacation in Southwestern U. S. this winter. They drove to Phoenix, San Diego and Oceanside, Calif., for several weeks' stay and planned a spring visit with their son, Russell J. LeRoux, manager of the Weyerhaeuser mill in Everett, and his wife, Margaret. The Russell LeRouxs also had a few weeks in Southern Calif. with the O. L. LeRouxs.

MILTON J. MAGUIRE, resident manager, Hercules Powder Co., Portland, Ore., and Mrs. Maguire made a motor trip to California in February where their daughter, Jane, graduated from the University of California in zoology and bacteriology. Their daughter, Betty, also graduates this year, receiving her degree in physics at the U. of Washington in June.

ED GARRISON, of American Cyanamid Co., Seattle, caught a 16-lb. steelhead trout in the Snohomish River on a recent fishing expedition, which is good size for that breed of fish.

ART DAMMANN, formerly Northwest representative for The Bristol Co., went to work for Electric Steel Foundry Co., Portland, Ore., March 1st, according to announcement by Jack Wilcox, manager of process equipment division. Dammann is working on process equipment and the pulping field.

JOSEPH E. DUFFEY has been named vice-president of Diamond Match Company, New York, and will be responsible for the timber and lumber operations of the company. He will also have general charge of production of all other departments and divisions.

Stebbins was there
The excerpts shown from the Finch, Pruyn & Company article in the June Pulp & Paper Industry are news now, because they tie Stebbins' name with a mill's unusual changeover to higher quality papers.
All tile work in the modern screen layout is by Stebbins.
All chests and vats are Stebbins tile-lined
the deckers, tiled by Stebbins,
PULP & PAPER INDUSTRY June 1947
For 63 years Stebbins has been allied with pioneering and development work in the pulp and paper industry. It is the thoroughness of Stebbins research and development that accounts for the fact that 80% of all chemical pulp made on this continent at some stage of its manufacture is processed in equipment built or lined by Stebbins.
Consult Stebbins on your next lining or tile tank job.
Stebbins Engineering Corporation
TEXTILE TOWER
SEATTLE 1, WASHINGTON

MILL PLANS PROGRESSING

K. K. Newsom, president and general manager, Newsom Kraft Corp. of California, has announced that plans are rapidly developing toward breaking ground in April for the $17,000,000 kraft pulp and paper plant to be located along the banks of the Sacramento River, about six miles upstream from Sacramento.

Mr. Newsom estimates that it will require from 15 to 18 months to construct the mill. The project and corporation will be under his personal supervision, and associated with him on the board of directors will be B. N. Rosenbaum, well-known New Yorker industrial financier; Harry F. Robb, Mr. Rosenbaum's Pacific Coast representative; Harry Jeffrey, San Francisco public accountant; and F. G. Hinckley, San Francisco businessman, with others to be selected later.

Mr. Newsom recently completed final arrangements for the financing of the mill with an over-all capitalization of $17,000,000, he states. Securities totaling this amount are being negotiated by Mr. Rosenbaum.

Mr. Newsom states, arrangements have been made with the nationally known construction and engineering firm of Merritt-Chapman & Scott Corp. for the construction of the mill and the consulting engineering firm of Myron C. Gould Associates, San Francisco will act as consulting engineers.

Mr. Newsom indicates that the plant will be most modern and complete in every respect. He states that initial arrangements have been made with Pusey & Jones Corp., Wilmington, Del., to install their 236-in. high speed Fourdrinier paper machine which will operate at considerably over 500 tons per day capacity of kraft liner board and corrugating medium when in full operation.

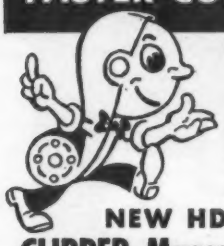
He estimates that the plant will employ from 800 to 1,000 people, with a direct labor annual payroll of over $3,000,000. The corporation contemplates spending over $8,000,000 annually in northern California for raw materials.

The output of this mill will be sold almost exclusively in the state, with 65% being sold within 100 miles of Sacramento. Later on, the sales outlet will be expanded to cover 11 western states and with completion of the Sacramento deep water ship channel, to all markets in the entire Pacific area.

According to Mr. Newsom special care has been given to the selection of equipment to treat properly both the incoming and outgoing water. The water requirements will be approximately 16,000,000 gallons per day, drawn from the Sacramento River. Except for that amount lost through evaporation the water will be returned to the river or to the Yolo by-pass. All outgoing water will be treated in such a manner as to prevent any contamination of the Sacramento River.

Officials of the company state that design of the mill makes specific provisions for the elimination of obnoxious odors.

FASTER CUTTING



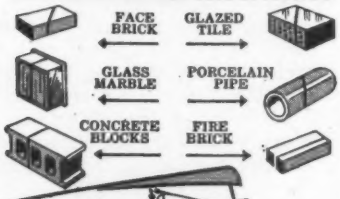
WET or DRY with the NEW HD 48 CLIPPER Masonry Saw

You'll be amazed how quickly and easily you can cut virtually any special length or shape from the hardest masonry materials. Clippers save time — save material, assure better workmanship on every job.

With the exclusive Clipper design, proven throughout the world and guaranteed to provide the fastest cutting speed and the lowest cutting costs.

DUSTLESS MASONRY CUTTING is fast and easy. Just turn on the circulating water system and slice through the hardest masonry materials. Foot Pedal control for varying material sizes or lock the cutting head at a set position, whichever is desired.

CLIPPER MAKES THESE CUTS IN SECONDS



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PHILADELPHIA CLEVELAND ST. LOUIS AUSTIN, TEX.

Installs Dorr System

Pacific Mills, Ltd., reports completion of the installation of the Dorr continuous causticizing system in the Kraft section of its mill at Ocean Falls, B. C., and completion of the zinc-hypro sulfite manufacturing plant for the groundwood bleaching process.

Extensive improvements in the sulfite mill are still in progress, but most of the program will probably be finished early in the coming spring. With this work done, the sulfite mill's production will be increased from 65 tons to 100 tons daily.

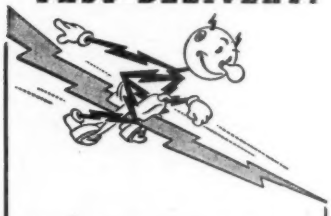
May, 1948, has been scheduled as completion month for two major power installations at Ocean Falls. These are a new 5000 KW back-pressure turbine and a 750 pound pressure Babcock & Wilcox boiler, developing 175,000 tons of steam per hour.

In the meantime, work is well advanced on an extensive modernization program in electrical substation and switching gear equipment.

While the Dorr continuous causticizing system in the kraft mill is now in full operation, the installation is not yet complete of three 3½ ton kraft digesters, manufactured by Vancouver Iron Works, Ltd. These will replace the 2½ ton digesters now in use, increasing production from 125 to 150 tons daily.

Other kraft mill improvements recently include a Nyman-Swenson kraft washer, sludge filter and Cottrell precipitator.

FAST DELIVERY!



Your electric power is "made to order" and delivered to you at 11,160,000 miles a minute! Yes, just flip a switch and Reddy Kilowatt is *there!* This super delivery—transmission and distribution—requires the most costly and complex equipment in a power system. From huge million dollar switching stations to watch-like meters, it's all precision built so that you can command tremendous power with the flip of a finger. That's why distribution alone represents over half of the investment value of a large power system.

PUGET SOUND POWER & LIGHT CO.
Frank McLaughlin, President

Clipper Manufacturing Co. Improves Masonry Saws

Improvements incorporated in Clipper Mfg. Co.'s masonry saw designed for cutting brick, tile and concrete, and for building construction and industrial plants use include: Dual belt drive, for increased power, snap-on-blade cover; streamlined position for instant one-man change, and fully adjustable conveyor clamps, both elevated and non-elevating types.

Improvements have been made to provide even greater efficiency, through the use of Clipper's "Multiple Cutting Action", which minimizes the arc of contact and exhausts cut-away particles as soon as they are cut. Complete information is available by writing Clipper Mfg. Co., 2800 Warwick, Kansas City 8, Mo., for Catalog No. 77PI.

Coos Bay Mill Lists Honor Roll

Five years or more of service have been completed by 50 employes of the Coos Bay Pulp corporation of Coos Bay, Ore., according to the annual honor roll issued by the company.

Gudger Meece, assistant superintendent, heads the list. He has worked 14 years for the concern.

Thirty who have worked at least 12 years are: C. Wylie Smith, general manager and vice president, and Robert Anglin, Arthur Austin, George Brown, George Burger, H. V. Carlson, Fred Caughlie, Lester Croff, Julien Dufrasne, Mathew Gillespie, Ernest Gurnea, Ralph Hall, Harold Hartley, Tom Hasan, Frank Iverson, James Malloy, George Monroe, Joe S. Moroy, Louis Nelson, Frank Putman, John F. Peterson, E. V. Richardson, H. A. Spacht, Leslie L. Sprogis, David Taff, Gerald R. Zinn, George Bailey, Norman Luke, Theodore W. Marley and Jack Whalen.

With 11-year records are James Baller, Raymond R. Brown, Howard Duffield, Fred Grotzke, R. H. Hardcastle, George Peterson and Orville Schulze.

Others on the honor roll are: Glen Sprogis, Vern R. Thomas, Harry L. Ward, Malcolm Jenkins, Fred Kelley, Leo H. Strine, Elsie J. Dolezal, Joseph T. Brager, James D. Fraser, Robert Bailey, Lester V. Marks and Henry Pederson.

Modernizes Machines

Rehabilitation of two paper machines at Lee Paper Co., Vicksburg, Mich., will be completed this year and there is no other expansion or rebuilding planned, according to Maxwell D. Bardeen, president. The company is offering stock at $20 per share to increase shares from 37,500 to 50,000. Acceptance period ends March 3.